Politics of Disaster in the Post-Developmental State: Seoul and Jeju, Korea

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Seoul and Jeju, Korea

by

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Declaration

I declare that this thesis

Politics of Disaster in the post-developmental state: Seoul and Jeju, Korea

has not previously been accepted in substance for any degree and in not being concurrently submitted in candidature for any degree. This is the result of my own investigations, except where otherwise stated, is fully cited and referenced, and/or with appropriate acknowledgement given.

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Abstract

This thesis explores political reflections on the emerging risks of hazard and climate change in the post-developmental South Korean state. Several cases of both actual and anticipated risk are investigated regarding contribution to reshaping a political landscape in which change might unfold. Three analytical frames (changes in social expectation, institutional change and social innovation) are elaborated. In addition, the Risk Society thesis (and its Korean counterpart dual-risk society thesis), studies of disaster and climate change adaptation inform this research. Employing a multifocal lens, the thesis problematises conventional, apolitical approaches to disaster risk, particularly in terms of their dichotomous conceptualisation of society and nature.

This research finds critical realism appropriate, due in particular to its ontological account of power relations and the driving forces of change. Using informal interviews, reviews of existing, relevant literature, as well as observation, this thesis reclaims the political space of the discourse of development and disaster risk. Issues of hazard, risk and climate change were found unfamiliar to most of the interviewees. There also emerged a translation issue between Korean and English during the stage of data analysis. The ways that these challenges were overcome are explained in detail.

This thesis contains strong evidence to suggest that disasters triggered by natural hazards and changing risk perception in Korea have surfaced as a political issue. More importantly, this research finds that hazard and risk can shake the existing discursive space in which alternative ideas can possibly transform into wider societal change. For this reason, issues like DRR and CCA can also be kept apolitical by existing discursive alliances that can benefit from ideological and institutional stability. The thesis concludes by pinpointing the importance of steering different forms of freedom for the fruits of incremental change to transform into the disaster-specific resilience that is key to transformative CCA.

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List of Abbreviations

ASEAN	Association of South East Asian Nations
CAS	Complex Adaptive System
CBO	Community Based Organization
CCA	Climate Change Adaptation
CCCEP	Centre for Climate Change Economics and Policy
CCM	Climate Change Mitigation
CDM	Clean Development Mechanism
CEPA	Comprehensive Economic Partnership Agreement
EFTA	European Free Trade Association
FRRP	Four River Restoration Project
GCF	Green Climate Fund
GDP	Gross Domestic Product
GINI	Gini coefficient
GNI	Gross National Income
HDI	Human Development Index
DRR	Disaster Risk Reduction
IDNDR	International Decade for Natural Disaster Reduction
IGO	Intergovernmental Organization
IMF	International Monetary Fund
INGO	International Non Governmental Organization
ISDR	International Strategy for Disaster Reduction
IPCC	Inter-governmental Panel on Climate Change
JI	Joint Implementation
LCGG	Low Carbon Green Growth
NGO	Non Governmental Organization
NI	NI New Institutionalism
NICS	Newly Industrializing Countries
NIE	NIE New Institutional Economics
PAR	Pressure And Release model
SREX	Special Report on Managing the Risks of Extreme Events
UKCIP	United Kingdom Climate Impacts Programme
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Conventions on Climate Change

Chapter 1: Introduction

1.1: Research problems

In the modern society, resilience to disaster risk is one of proxy indicators for sustainable urban governance and Climate Change Adaptation (CCA). For good reason, the compelling need for social change has encouraged societies to reconfigure the relationship between, and the discourse of, development, climate change and environmental disaster risk (Schipper and Pelling, 2006). This idea serves as a starting point for the discussion about politics of disaster as climate change adaptation throughout this thesis.

The 2011 east Japanese tsunami-nuclear crisis epitomises the above point. The impossibility of decontaminating radioactivity has still blocked refugees' return to home and hence delayed (or will permanently preclude) reconstruction of the disaster-torn villages. The crisis has put into question even the widely known, high level of disaster-specific resilience of Japanese society (c.f., social disorder in the 2010 post-Haiti earth quake crisis space). It remains to be seen how far disaster-torn Japanese society has transformed itself to reflect on her development path at large. Three years on however, Prime Minister Abe's conservative Liberal Democratic Party (LDP) seems to have taken the path towards extreme conservatism following the failure of the Democratic Party of Japan's (DPJ) transformative experiments from 2009 to 2012. However, one cannot simply ascribe the conservative swing to the crisis alone; instead it is worth considering the extent and the manner, to which the crisis has unfolding upon the entire socio-political landscape of the society. The research does not study the case of Japan, but Korea.

In the case of Korea, the root causes of social vulnerability to risk and hazard can arguably be attributed to the developmental path, and this has brought about a somewhat different type of reflexivity from that of Western societies (Han and Shim, 2010). The reflexivity may involve change in dominant ideas, behaviors, discourses, and the relationship between all of these. Yet, any societal change for climate change adaptation and disaster risk reduction is seldom apolitical. This thesis explores the ways in which different political reflections and interpretations are formed in response to emerging material and socially constructed risks of hazards and climate change in

Korea. Political interpretations of risk take differing directions and shapes, with the possibility of conflicts coexisting. They rely not only on agents of change and power relations but also existing discursive settings.

Again, in terms of risk management for natural hazards, we seem to have more knowledge than before, for example in early warning and forecasting; yet we have witnessed more losses and damages from disasters too (White et al., 2001). At the same time, conventional, apolitical, and technical approaches to disaster risk reduction and human wellbeing have proved insufficient at best, and even detrimental at worst (Beck, 1996, Mustafa, 1998, Wisner et al., 2004).[1] Why is it that more knowledge does not lead to better disaster risk management? What are the implications of the mismatch between theory and practice in confronting the issue of climate change and disaster risk? At this stage, it is useful to look at responses from different scales to the trilateral relationship between climate change, hazard and development, as well as their critiques: from global to national.

The United Nations Framework Convention on Climate Change (UNFCCC) has recently reiterated its commitment to CCA; in addition to other pillars of "a shared vision for long term cooperative action": Climate Change Mitigation (CCM), technology development and transfer, finance, and capacity building (UNFCCC, 2010: 4-5). Following the previous initiatives such as the Marrakech accords, the Nairobi Work Programme, and the Bali Action Plan, the 16th conference of parties (COP) in 2010 led to two significant steps forwards: the Cancun Adaptation Framework and the Adaptation Committee. These will help achieve nine tailored sub-objectives to "enhance action on adaptation" of the parties (ibid.). At the COP 17 in Durban in 2011, more political decisions were made on how the adaptation committee should work, what activities should be undertaken by the work programme on loss and damage, and the guidelines for the national adaptation plans for developing countries.[2]

The newly established adaptation framework does not disregard the importance of different development needs that each country has in relation to development and "country-driven", "gender-sensitive", "participatory" approaches to CCA (see footnote

[1] The database by which to measure and confirm the vulnerability gap is neither comprehensive nor accurate since it only counts insured loss and damage. If uninsured losses and damages were included, it

[2] See http://unfccc.int/adaptation/cancun_adaptation_framework/national_adaptation_plans/items/605.php

2). Neither does it intend to generalise the order of priority for local CCAs. As of January 2012, we see that 47 developing countries have expressed dissimilar adaptation priorities for their own National Adaptation Programmes of Action (NAPA). For developing countries, the Least Developed Countries (LDC) Fund was set up at the 2001 Marrakech Climate Change Conference; the Green Climate Fund (GCF) was established to support both CCM and CCA projects and programmes in December 2011.

Even before the Cancun climate change conference, however, some scholars questioned if the convention offered the most adequate policy framework for local CCA (Burton, 2009, Schipper, 2009). This is most likely because "vulnerability to climate is determined by factors that are far beyond the scope of the UNFCCC or any global treaty" (Schipper, 2009: 371). The nature of vulnerability of the parties of the convention to the risk of climate change and variation is largely subject to their development pathways, current capabilities and social expectations of the future. Despite the aim to "promote the paradigm shift towards low-emission and climate resilient development pathways" of the parties, the role of the GCF will remain *supportive* rather than prescriptive or determinate (footnote 2). Further, differing reasons for CCA in different societies, sectors and at different levels will lead to the enormous potential for conflicts of interest between different stakeholders. Current national institutional arrangements for almost every party of the convention do not adequately factor such political issues into the policy-making process of CCA. Indeed, the politics of CCA have yet to come to the fore (Giddens, 2009: 162); despite the increasing attention to the politics of disaster (Pelling and Dill, 2009).

Given the limited scope and liability of the FCCC, nations and local communities must seek to make their own rational for CCA and disaster risk reduction. Yet CCA should be seen as more than an objective. As some progressive CCA scholars note, it is also a good opportunity for societies to transfer their values, ideas and visions to pursue environmental sustainability and resilience (Pelling, 2011, Rodima-Taylor et al., 2012). Thus CCA requires questioning possibility and legitimacy of *innovation* in both short and long terms (Chhetri et al., 2012, DiGiano and Racelis, 2012, Eriksen and Selboe, 2012, Rodima-Taylor, 2012, Scheffran et al., 2012, Upton, 2012).

Introducing change, however, is difficult. Certainly, new ideas are not essentially better than old ones. Nor are old ideas necessarily outdated. Equally importantly, whether a society likes it or not, innovation is not easy to bring about, if not completely impossible. Differently put, to establish innovative institutions that embody critical ideas is neither easy nor costless (Chang, 2010b). If it were, society would have been extremely vulnerable to overly frequent internal changes and would have thus lost desirable stability.[3] There have been serendipitous social changes in human history. In contrast, debates on social engineering, typified by the early 20th century's totalitarian, artificial attempts to renovate society into various kinds of utopia (by Hitler or Stalin, for example), exemplify the point that attempts to change social values and visions could result in disastrous outcomes (Podgorecki et al., 1996). Nevertheless, we are living in a world in which the efficiency and legitimacy of existing institutions are questioned in relation to how well they reflect evolving social expectations of uncertain external stimuli (for the definition of social expectation, see Chapter three). [4]

Amidst growing global concerns about climate change risk, Korean society has arrived in the post-compressed development era (Wong, 2004). Korea is seeking to re-innovate its development strategies and tactics in accordance with a newly introduced development vision. It is extremely important to comprehend this vision, which forms the basis of the national and local CCA policies. The following passage by Ministry of Government Legislation is worth noting as it explains the rationale for the vision:

> "Recognizing the necessity for generating creative ideas and making audacious decisions to join the ranks of advanced countries, President Lee Myung-bak declared the country's vision for "Low Carbon, Green Growth" as a new paradigm for economic and social development designed to speed up elimination of outdated production patterns relying heavily on the input of factors of production, such as resources, labor, and capital, and create engines for future growth in his congratulatory address delivered on the occasion of the National Liberation Day on August 15, 2008" (MGL, 2009: 9).

[3] Of course, new ideas are not the same as innovation; although each partly limits the scope of other. Given that institutions embody a set of ideas, it is appropriate to investigate the relationship between ideas and institutions through which we can observe how certain ideas gain legitimacy and priority over others to either change or reinforce the way of how the real world works (Schmidt, 2008).

[4] The mosaic of divergent expectations that people have of each other, nature, and the future is also embodied in institutions, be they formal or informal, political or economic, and micro or macro (see Chapter three).

This passage does not do justice to the complete breadth of the vision. It underlines the need for Korea to transform the orthodox paradigm of development. Whether it likes it or not, the government clearly acknowledges that the (pre-)existing developmental pathway needs to be radically replaced. It also emphasizes the need to "speed up [the] elimination of outdated production patterns" (ibid). The reason for renewing the developmental path is to "join the ranks of advanced countries" by creating "engines for future growth" (ibid). In fact, this is reminiscent of the past "compressed development" in the 1960s to 1990s, because, in a similar way to past polices, it elicits radical structural changes to meet the newly established vision of modernization. The authoritarian governments of Koreas successfully employed the catching-up governance strategy, in alliance with the large conglomerates (*Chaebols*), compliant interest groups and laypersons, and were able to uproot the nation's pre-existing traditions and old norms.

The Korean development experience is far from a "miracle", however much some scholars might label it so (Amsden, 1994, WorldBank, 1993, Chaibong, 2008), given the huge costs that will have to be paid in the future. Some critical scholars argue that the non-material values that were deliberately overlooked by the authoritarian regimes need urgent attention. This idea is the gist of the "dual-risk" thesis, that argues that economic growth has been too successful; it became a source of Risk Society (Beck, 1996), and that socio-political development has been "limping" and became a source of traditional types of risk (Kim, 1998: 28). This dichotomistic understanding to some extent simplifies the complex multi-level interactions between diverse institutions and values. For instance, it does not consider the critical roles that traditional norms and informal rules took to cover the institutional gap caused by rapid economic growth. Second, the "dual-risk" thesis tends to see Western Risk Society as normal and developmental Risk Societies as abnormal. These shortcomings have not gone unnoticed, and sociologists have recently acknowledged the "varieties of second modernity" (Han and Shim, 2010: 465, Beck and Grande, 2010). Trouble begins when emerging social needs and values do not entail alternative institutional arrangements, while old norms begin to lose their efficiency and legitimacy (see Chapter seven, especially the traditional social capital *Gwon-dang*). Nevertheless, the dual-risk thesis has shed light on the situation in which spatiotemporally heterodox values and

institutions structurally shape the underlying causes of risk facing contemporary Korean society.

This may be the first time that parallel ideas have been able to reconfigure a nation's paradigm of development. Perhaps, however, radical scholars and the media accuse the new vision of subordinating nature to growth, thereby indulging the existing "growth coalitions" with more freedom to continue urban and industrial growth (see Chapter five). Other scholars might argue that the notions of the new vision, that is, a retrogression of the Sustainable Development concept, do not address the root-causes of environmental problems. These arguments are backed up by the recently completed Four-River Restoration Project (FRRP) and the government's reaction to the 2011 East Japanese tsunami-nuclear crisis (see Chapter five). Some claim that the FRRP is nothing more than a large-scale engineering project worth some $20bn. Some people see this as similar to the New Deal in the USA in the 1930s that followed the Great Depression. Anticipated crises have already taken the shape of algae outbreak over the four rivers. In addition to the 23 nuclear power plants in operation, Korea will see seventeen more plants by 2030.[5] Clearly, given the strong role of the state in carrying growth-oriented plans forward, *statism* still persists in Korea (Bae and Sellers, 2007). One question that one might immediately raise is: how far can this new vision and subset projects help deal with the dual risk problems facing Korean society? In this thesis, no direct answer is given to this question. Rather, this thesis reveals political reflections on dual-risk of disaster triggered by natural hazards in the post-developmental Korean state.

In this thesis, institutional changes, specific to the post-developmental state space, are examined, with reference to the recent political responses to climatic risk in Seoul and Jeju, Korea. As stressed above, institutional change is not easy to bring about in the first place. In preparing for the uncertain risk of climate change, however, how society and organizations deal with institutional changes without compromising the positive aspects of previous institutions, ideas and values is extremely important. In other words, the logic of balance between institutional stability and flexibility comes to the fore. In the case of contemporary Korea, however, the balance between institutional stability and flexibility has been struck in such a way that the construction of flexible

[5] See http://www.world-nuclear.org/info/inf81.html

governance space has been built on ongoing narrative competition over the legacy of compressed development. This means that gaining stability is a necessary but not a sufficient condition for flexibility. But this should not be understood as replicating the argument that the importance of structure comes before that of agency, as some institutionalist economists might argue (see Chang, 2002a). Instead, the thesis argues that structure and agency have their own roles for the building of both stability and flexibility. Stability requires both structure and agency just as flexibility does.

This thesis explores changing socio-political responses to emergent risks and hazards in Korea, be they physical disasters or a social construct of climate change risk. In doing so, we can better comprehend how social actors recognise and reframe both exposed and covered adaptation deficits, how conflicting discursive alliances are accordingly formed, and how the conflict itself might become an impetus of institutional innovations for CCA and DRR. Going beyond arguing that disasters are essentially a political issue, the current research sets up a new conceptual and analytical tool to illuminate the various interplays between politics and hazard in contemporary Korea. The current research also intends to produce critical insights that are of much relevance to studies of development, disaster and climate change. The following section expounds the rationale for the current research, and thereby presents how the whole research process was created.

1.2: Research objectives, aims and research questions

This thesis seeks to synthesise various ideas and thoughts to sheds light on the institutional aspects of disaster risk reduction as crucial part of climate change adaptation. The modern Korean society has confronted newly emerging demands and expectations. The thesis argues that the post-developmental Korean society is saturated with a full of institutional vacuums that need to be filled, if social vulnerability to climatic risk is to be adequately addressed. The ideas and practices predicated on the notion of neo-liberalism (in both political and economic terms) have offered nothing but to emphasize the role of individuals' freedom in risk management. Yet, the impacts of the social transformations on shaping local adaptive capacity, and its political implications for the wider community's resilience have remained largely unexplored.

The aims of the research are to: 1) integrate various ideas of different schools of thought (e.g. politics of disaster, the dual-risk thesis and institutionalism); and 2) to explain local manifestation of dual-risk by regaining political space in the discourse of disaster risk reduction and climate change adaptation. In an attempt to achieve these research aims, this research intends to: 1) set up the theoretical framework based on various ideas of risk, development, institution, social capital and social innovation (Chapter two and three); 2) traces the origin of current disaster risk to the development path (empirical chapters); 3) expresses political and discursive expressions of dual-risk in Seoul and Jeju (Chapter six and seven); and 4) stresses the necessity and possibility of mutual, discursive infiltration between disaster risk and climate change adaptation in the context of the post-developmental Korean society (Chapter eight).

This thesis adopts a multifocal theoretical perspective in addressing the issue of politics of disaster in Seoul and Jeju, Korea. Informed primarily by the works in a structural and historical mode – (Adger, 2000a, Beck and Grande, 2010, Chang, 1999, Chang, 2009, Han and Shim, 2010, Pelling, 2003c, Wisner et al., 2004), this research poses the following research questions:

The main research question: How is a disaster triggered by natural hazards a political issue of dual-risk in the post-developmental Korean state?

Sub-question 1: What is the relationship between politics and a disaster triggered by

natural hazards in the post-developmental Korean state? (see also core ideas in Chapter eight: B, C ,D , F, I , J , K)

> There are numerous discursive and material relationships between politics and disaster in Korea. Yet, not all disasters become a political issue. Nor all political decision makings and activities entail or mitigate a disaster. There is a particular condition in which politics and disaster lie in a necessary relationship (for understanding of a necessary relationship see Chapter four). In the case of contemporary Korean society, political reflections arise from the existing discursive space that hazards expose.

Sub-question 2: How does the post-developmental state relate to the localization of dual-risk of disaster in Seoul and Jeju? (see Chapter eight: B, C, F, G, L)

> The localization of dual-risk of disaster and political reaction in Seoul and Jeju differs. As dual-risk is partly, yet largely the result of compressed development, the different developmental paths of the two places have led different realities of dual-risk. In particular, Jeju has confronted "imported" dual-risk.

Sub-question 3: To what extent is a disaster triggered by natural hazards a symptom of dual-risk in Korean society? (see Chapter eight: C, D, F, K, L)

> The dual-risk thesis was originally developed to explicate merely technical risk. Dual-risk stems from the post-modernisation situation in which spatiotemporally too heterogeneous values and institutions coexist generating institutional vacuums. This is where the socionature thesis and dual-risk thesis can mutually benefit. Attempts to reconfigure adaptation deficits are directed towards transforming an existing development path.

1.3: The structure of the thesis

This thesis is comprised of eight chapters. This section accounts for the structure of the thesis. Chapter Two defines key terms and concepts on which the debate of this thesis builds: risk, hazard, dual-risk, compressed modernization, vulnerability, adaptive capacity and resilience. When the cause of natural disaster is attributed to nature only, that is, a partial perspective, there is less room for hoping to strengthen social

resilience to disaster risk as well as adaptive capacity for CCA and DRR. Regrettably it has been the case in many parts of the globe including Korea. How to frame the discourse of risk, hazard, disaster and climate change, in the light of responsibilities, a variety of rights, social relations, the nature of human being and political economy regime, shapes the nature and scope of available options, strategies and pace for adapting to environmental disaster risk. We need to see disasters triggered by natural hazards as not just individuals' tragedy but also a social and political issue. In this regard, it is extremely important to scrutinize the social expectation side of society. What we collectively expect not only from each other but also from our future will be crucial to understanding of the path we will take to the future. Chapter three offers accounts of social innovation that presupposes change in expectation.

Chapter Three in great detail scrutinises institutions, social capital, ideas, social innovations and discourse. The relationship between ideas and institutions is crucial to address uncertainty issues of economics, politics, and environment. When social innovation crosses the vertical and horizontal levels, for example from the individual NGO level to the municipal administrative level, the scope and depth of impacts of innovative ideas and new thoughts might become far greater. Thus, it is assumed that a threshold effect of social innovation opens the opportunity of disseminating new ideas, therefore transforming the institutional arrangement in which climate change uncertainty is dealt with. As noted by Nilson (2003), the models of social innovation embrace complex adaptive systems, institutional theory and social construction, social movement, organizational theory, social entrepreneurship, (technological) innovation, and social capital. I do not explore the details of each model. They overlap in many ways despite their distinctive focus on objects, scopes and levels of social innovation. Instead, this chapter limits itself to exploring the way of integrating core tenets of social innovation into the theoretical framework of institution for the thesis.

Chapter Four outlines the ontological, epistemological, methodological framework of the current research. In addition, the chapter will discuss methodological and analytical concerns. Issues related to translation between Korean and English are non-trivial and will also be taken up in the chapter. Indeed, this thesis sees language as one of the basic institutions that shape the institutional and discursive structure in which various ideas, values and cultural expressions are dealt with (Hodgson, 2006). In addition, this

chapter elaborates the design of the research. It is extremely important to explain the gap between the initial aspiration of the research and the reality the researcher faced during the fieldworks in a later stage. Initial curiosities, based on Internet searched materials and literature were not satisfied for many reasons. The strategy and process by which fieldwork challenges were overcome will be explained.

Chapter Five critically reviews how the recent development paradigm (the Low Carbon, Green Growth strategy, hereafter LCCG) with its subset projects (e.g. the Four Rivers Restoration Project, hereafter FRRP) exploited the perceptual importance of nature as a source of future risk, in order to maintain the status quo of contemporary Korean society. At first, the governmental initiatives prevented experimental/critical thoughts from the bottom-up in various ways. In particular, the legacy of the Cold War –ideological enmity – has reduced, if not entirely banned, the public sphere in which the generic level of resilience attained throughout compressed development can be transformed to hazard-specific resilience. Little is known of how discursive and ideational distortion influences the potential of social innovation for environmental risk reduction.

The policy and discourse of climate change adaptation in Korea has developed in a way that aims mainly to promote the status-quo values and the existing power relations of society. Needless to say, this does not mean that the policy of climate change adaptation in Korea excludes vulnerable groups from discussion. Present policy measures and practices have been directed towards addressing some groups' health vulnerability (e.g. the elderly) to climate-related disaster risk such as heat waves and urban floods. Yet, there are some barriers to the integrative approaches (between vertical and horizontal actors) to the issue.

Chapter Six illustrates that it is city-level politics at which more compelling evidence of political reflections on the *dual risk* was observed (Kim, 1998) – through the change of mayor in Seoul after the landslides and inundation disasters. Of course, the urban disasters were not the single, immediate cause of the mayoral change; they probably took an ancillary role at best. More importantly, however, the new leadership has taken several innovative measures, with a greater emphasis upon civil participation in environmental risk reduction. In addition, the heavy engineering works planned by the

former mayor have been either cancelled or reduced after reassessments of their necessity and cost-benefit analysis, on the strength of critical scholars and civil activists who used to be excluded from the previous risk governance space. This case illustrates one possible political channel through which alternative ideas within civil society penetrate into the local authority, and possibly the wider risk governance space. This is juxtaposed with the risk governance process in Vietnam by which re-emerging roles of civil society makes up for the lack of governmental roles in disaster risk reduction in Vietnam (Adger, 2000a). In the case of Korea, however, it was not just a resurgence of local community power but people's political judgment on the incumbent (local) government that brought forth alternative leadership. In this case, the recent evolution of institutional arrangements for risk management is down to the *democratically activated* exchanges of cognitive and normative ideas, causal beliefs and worldviews amongst different political actors/groups, particularly in the post-urban disasters space.

Seoul was once critiqued for lacking any policy endeavour to collect and compile essential information about its disaster risk experience (Mitchell, 1999, cited in Pelling, 2003c). More than a decade on, it is still apparent that far more work needs be done if the city is to adapt to the uncertain future risk of climate change. This chapter argues that the mayoral change in Seoul, in the wake of several urban disasters, was a bottom-up reflection (with changes in complexly interwoven ideas) of the recent conservative government's top-down approach to dealing with both physical and socially constructed risk.

In Chapter seven, the case of imported dual-risk will be discussed with particular reference to the case of the naval base construction crisis in Jeju Island. The island has remained relatively marginalized by cetralised development, and this thesis argues that it has undergone external exploitation for a long time. This has to do with the islanders' independence, exclusivity against outsiders and an endemic social capital called *Gwon-dang*. In addition to being historically unique, the island has played supportive role for national development. The tourism industry has been planned and developed by the authoritarian government for the last four decades. That said, it seems true that the fruits of local development have not been reinvested back onto the island. Evidence shows that despite their, local values, ties and the identity of place have

recently been in danger of disappearing as a result of external capital-directed development projects. It is also evident that there is a strong local belief that the island's unique geological characteristics would prevent disasters from occurring. Chapter Seven argues that the case of the naval base construction illustrates how dual-risk can be both ideationally and materially imported.

In Chapter Eight, the thesis articulates the theoretical implications that the current research has for existing theories and concepts. A dozen core ideas will be discussed in order to address the research questions. Each core idea (A~L) relates to more than one research question. Following that the concluding chapter will draw theoretical connections between the current research and the resilience thinking and the notion of freedom (positive and negative freedom). The chapter briefly introduces the concept of developmental resilience emphasizing its theoretical and empirical relevance. It is also addressed that there are some research limitations and further research needs. The chapter also suggests policy implications for other would-be dual risk societies. The chapter concludes this thesis by emphasizing that disaster is already political issue in the post-developmental state, and this means that the clashes of heterogeneous values, ideas, interests, institutions and expectations will possibly happen in a public space created by natural hazard in the era of climate change.

Chapter 2: Emerging risk of hazards and climate change in dual-risk society

2.1: Introduction

This chapter problematizes the conventional, apolitical and ahistorical understanding of the risk of climate change and environmental hazards. It is often overlooked that the vulnerability of contemporary society to hazard and risk is a result of political decision-makings in the past. This chapter offers a deeper understanding of how complex risks facing Korean Risk Society might have originated from its own unique developmental path, i.e. so-called compressed modernization. This chapter presents a wide range of disciplinary studies, their core ideas, arguments and data in order to achieve this objective.

First, this chapter introduces the concept of compressed modernisation, and provides evidence of the country's rapid transformations and the ramifications. Following that, key terms such as risk, climate change, hazard, disaster, vulnerability and adaptive capacity will be carefully defined. What should be pointed out is the unique process by which such rapid growth and its considerable fruits (e.g. material wellbeing) have failed to transform into nurturing disaster-specific resilience and adaptive capacity. In fact, this thesis argues that compressed modernisation is partly a source of contemporary hazard risk; of course it has arguably given rise to political reflections on the emerging risk in Korea. Second, after pointing out the need to include the concept of vulnerability within development discourse, the chapter will account for the changes in structures of risk in Korea. The recent history of disaster and main environmental hazards in Korea will be discussed, after which, three charts will be used to illustrate the trends of natural disaster outcomes in Korea over the last three decades.

2.2: Compressed modernization

Thanks to compressed modernisation over the last four decades, Korea has become one of the most prosperous countries in the world, if not the wealthiest (Chang, 2007); the most democratic (Chaibong, 2008, Jacobs, 2007); and the most highly ranked on the Very High Human Development Index (ranked 12th in the world, see http://hdr.undp.org/en/reports/global/hdr2013/). Compressed modernity refers to "the (re)constructed state of complex modernization in which spatiotemporally heterodox

factors coexist due to the extremely compressed – both spatially and temporally – manner of modern transformation" (Chang, 2009: 9). In this sense, compressed modernization is an extremely rapid transformation in social structures through which discursive and material values were (re)produced by East Asian authoritarian regimes such as those in Korea, Taiwan, and Singapore. In the Korean context, such regimes were headed for about three decades by former presidents, Park Chung-hee (1961-1979) and Chun Doo-hwan (1980-87).

Compressed modernisation has had a deep impact on Korean society at the cost of other important values and visions; notably, environmental sustainability, labour rights, social security, gender equity, freedom of international travel, and regional equity as well as disaster risk reduction. The concept of compressed development has been developed and elaborated to account for unique process and aspects of modernity in Korean society for which Western theory (e.g. Risk Society) cannot properly account (Chang, 1999, Chang, 2010c, Chang, 2009, Chang and Song, 2010, Hae-Joang, 2000, Whittaker et al., 2010). The notion of "nondecisionmaking" (institutional inertia), i.e. the exclusive focus on economic growth, may be partly applicable to the case of Korea's developmental path (Adger, 2000a: 738). The asymmetric power relation between the authoritarian state, large conglomerates (*Chaebols*), and a weak, yet resistant civil society[6] was the core institutional driver of encouraging compressed modernization. This section offers a detailed account of both fruits and ramifications of the rapid socio-economic transformation of Korea.

2.2.1. Rapid economic growth

One report from USAID (the then governmental aid agency in the U.S) in the 1950s called Korea a "bottomless pit" (Chang, 2007: 3). Korea was extremely poor and hopeless after suffering the Korean War from 1950 to 1953. Four million people died and ten million were separated from their families. The tragedy of this fratricidal war also destroyed more than half of the industrial base and infrastructure of Korea. The war disrupted the national educational system, which had already been in an extremely poor condition before the war (Sorensen, 1994: 12-13).

[6] Pierre and Peters (2005: 69) state that the concept of civil society assumes "the existence of social organizations, and for students of civil society the formation of organizations is in essence the dependent variable." In this sense, civil society in the context of Korea includes student activist groups, NGOs, academics, CBOs, religious groups, research institutes, and so forth.

Given the severe situation at that time, Korea's economic growth since the 1970s has been outstanding, compared to that of Latin American and African countries, and even to that of the U.K and the U.S when they were developing. For example, it took Britain and the U.S approximately two centuries to obtain the level of GDP that was achieved in Korea in just four decades (see Table 2.1 below). However, the figures account only for the rapidity and quantity of the growth, and do not account for crucial factors such as the nature and driving forces of the developmental path.

Table 2.1. Per capita income in Purchasing Power

(1990 international Geary-Khamis dollars, except the year 2012[1])

Year/ country	Britain	U.S	South Korea	Latin[2] America	Africa[3]
	Per capita income in Purchasing Power (1990 $US)				
1720	1250	527	N/A	N/A	N/A
1820	1707	1257	N/A	665	N/A
1870	3191	2445	N/A	698	N/A
1913	4921	5301	893[4]	1511	585
1950	6907	9561	770	2554	852
1967	10049	14330	1483	3598	1149
1973	12022	16689	2841	4531	1365
1990	16411	23214	8704	5055	1385
1998	18714	27331	12152	5795	1368
2012	35800	50610	30890	N/A	N/A

Sources: Adopted from Maddison (2005), OECD (www.oecd.org/infigures), and World Bank (http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD).
Notes: 1) GNI per capita, PPP (current international $), 2) Latin America includes twenty-one Caribbean countries, 3) Africa includes 57 countries, and S = Sub-Saharan and M = Middle-East/West African countries respectively, 4) 1913 includes North and South Korea.

The conventional idea that rapid economic growth is offset by a deterioration of economic inequity due to a lack of skilled and educated manpower (e.g. the Kuznet hypothesis) is proved wrong by the Korean case (Dornbusch et al., 1987: 399-400, see table 8, Greenwood and Jovanovic, 1989), at least when levels of income distribution and poverty reduction in the 1960s to 1980s are taken into account. In general, the Korean economic development maintained both economic efficiency and equity relatively well until the 1997 financial crisis. For instance, the extension of education to foster "industrial learning" appears to have been highly significant in allowing Korea to supply the labour market with essential manpower that met "the new skill requirements" (Dornbusch et al., 1987, Morris, 1996, Viotti, 2002, You and Chang, 1993: 39).

As Viotti (2002: n/a) notes, technological "[*i*]*nnovation* is the engine of capitalist development as a whole." The Korean economy quickly upgraded its industrial structure into technology and human capital based one (Amsden, 1989, Hobday, 1995, Lee, 2000). Perhaps this means that Korea has thus far not been reluctant to adopt new ideas and technology from the external world (mainly the U.S) so as to imitate, invent, and innovate new ideas and products. Korea is now ranked first amongst large countries and second only to Singapore in the globe in terms of technological innovation in manufacturing sectors (Andrew et al., 2009).

2.2.2. Multidimensional ramifications of compressed modernization

The rapid economic growth of Korea is often typified as compressed development (Whittaker et al., 2010: 1). The term "compressed" denotes that Korea has achieved a material transformation, without following in all the steps that early industrializing nations had taken (ibid.). Consequently, the creation and collapse of different kinds of modernity have simultaneously coexisted in Korea (ibid.). Needless to say, no society entirely dispenses with traditional values, institutions and codes of conduct before embarking on (post) modernization. There are no such clear-cut boundaries between tradition, modernity, and post-modernity, to borrow Beck's account. However, it is evident that the rapidity of Korea's transformation has prompted the simultaneous creation and destruction of heterogeneous institutions, social relations and values in Korea. As Whittaker et al (2010: 1, parenthesis added) rightly put it:

> "The social relations and values commonly associated with agricultural or early industrial societies – a high value placed on male children, for instance – can overlap with late or post-industrial emphases on equality and higher education opportunities for women, exacerbating gender tensions and accelerating trends towards later marriage, declining childbirth rates and societal ageing that typically come with later stages of economic development…[w]hile later developers [such as the western European countries] have only recently begun to de- (or post-) industrialize, however, compressed developers [such as Korea and Singapore] are doing this at the same time as they are industrializing."

In addition, many other tangible and hidden radical changes have taken place in Korean society over the last four decades or so as a result of the country's compressed modernization.

A. Coastal industrial complexes; in *Busan* for a port*, Pohang* for steel mills*, Ulsan* for

shipyards, *Yeosu* for petrochemical plants and land reclamation projects – *Saemangeum and Sihwa* district).

B. Technology: structural changes from natural resource dependence to technology/human capital-centered industry over the last four decades (Hobday, 1995), a patent (ranked among top five countries in the context of "the number of patents granted by the US Patent Office" (Chang, 2007: 11), technological innovation – ranked first among large countries and second in the world, (Andrew et al., 2009).

C. Education: spiritual and material modernization in the educational system since the 1960s (Morris, 1996) and excessive education 'mania' (Seth, 2002). This has also led to the risky situation in which highly educated women encounter traditional roles (Chang and Song, 2010).

D. Increasing exposure to periodic environmental hazards: typhoons, flooding, and landslides, unprecedented and increasing, man-made disasters: the collapse of the *Sampung* department store and *Seongsu* grand bridge in the 1990s.

E. Active engagement in international politics, humanitarian development issues, and global markets: recent affiliation with OECD Development Assistance Committee (DAC) after joining OECD in 1996, Free Trade Agreements.

It can be inferred that despite their undeniably positive aspects, these changes in many aspects of society might serve as the underlying sources of the risk of natural disaster and climate change (see Section 2.6). At the same time, however, the introduction of democracy has also formulated several new ways of and limits to dealing with the above ramifications of compressed modernization.

2.2.3. Consolidation of '87 democratization (87 Minjuhwa)

The authoritarian regime in Korea was brought to an end as a result of democratization in 1987, which was one of two third-wave democratizations in Asia; along with Taiwan (Jacobs, 2007). This led to the activation of civil society in Korea (Lee, 1993). It is cogently argued that the consolidation of democratization was delayed during the subsequent two governments (the President Rho Tae-woo in 1988-1992; Kim Young-sam in 1993-1998) (Kim, 1997). For two years following his inauguration, President

Kim Young-sam conducted a number of "unprecedented political and socioeconomic reforms" (ibid: 1140). These reforms entailed the resignation of corrupt government officials and politicians; the prohibition of "all anonymous financial transactions and accounts"; the reshaping of "civil-military relations"; the normalization and strengthening of the power of civil society (including radical social movements) (ibid). However, these efforts were tarnished because the *civilian* government still lacked the political will to jettison the country's authoritarian past. While two former presidents, Cheon Doo-hwan and Rho Tae-woo, were charged and imprisoned for illegal fundraising due to a backlash from civil society, violent government repression was used, once again, to resolve conflict between the state and labour. Amidst the delayed consolidation of democratization, Korean society witnessed the first sign of the Asian financial crisis: the bankruptcy of *Hanbo* Steel (one of *Chaebols*).

2.2.4. The 1997 financial crisis

Following that the 1997 Asian financial crisis provoked academic and policy debates over the sustainability and moral legitimacy of the "rush-to-growth" paradigm of compressed development (Kim, 1998: 28). The question of why the financial crisis happened is beyond the scope of this research. The issue of what caused the crisis is controversial amongst economists, who for example, debate the relative impact of under-regulation and overregulation on the crisis (Chang et al., 1998). Yet, it is possible to consider the financial crisis as an opportunity for introspection and reconfiguring the conventional development path. The democratic regime under the first opposition party President Kim Dae-jung had no choice but to adopt the IMF relief loan program. This program entailed the following structural adjustments throughout the economy (Shin and Chang, 2005):

> Macroeconomic retrenchment – e.g. a tight budgetary policy, and hence less state intervention in financial markets;
>
> The opening and further liberation of capital markets – e.g. the abolition of subsidies and import barriers, the activation of Free Trade Agreements (FTAs) since 2003, with 45 countries including Chile, EFTA, ASEAN, the U.S and E.U, the Comprehensive Economic Partnership Agreement (CEPA) with India in 2010, and FTAs in progress with 12 countries and in the preparation stage for 14 more countries; and

> Structural reforms – e.g. the *Chaebol* structure which entailed a decrease in debt-equity ratio from 400% to 200%, the sell-off of "peripheral" business, and the prohibition of "loan guarantees and internal transactions among *Chaebol* affiliate firms."

Added to these was the increasing preference to a neo-liberal type of *numerical* labour market flexibility (Crotty and Lee, 2002, for worker's right-based flexibility, see , Haagh, 2001), and the reinforcement of private and intellectual property rights (Shin and Chang, 2005).

2.2.5. The recovery process and the empowerment of civil society

Within two years from 1999, the Korean economy quickly recovered from the financial crisis, at least in macroeconomic terms. Yet, the IMF programme had left the society with unwelcome social (e.g. the credit card scandal) and economic repercussions (Crotty and Lee, 2002, Shin and Chang, 2005). Consequently, it provoked a severe backlash from social groups, such as farmers, company and film workers, as well as intellectuals.[7]

Khang et al. (2005) reveals some telling correlations between increases in cause-specific mortality rate – suicide and homicide, and economic indicators such as rising unemployment (from 2.6% in 1997 to 8.4% in 1998), increasing income inequality (GINI index 0.298 in 1996 to 0.358 in 2000) and a decline in household income by 6.7% in 1998 (see also Chang et al, 2009). In addition, a Keio University Survey revealed that 75.7 % of Korean respondents showed "not much" or "little" trust in the Korean government (Lee and Arrington, 2008: 77). This can be partly explained by the fact that the financial crisis unmasked the corrupt relationship between some senior politicians and *Chaebols* – e.g. *Hanbo* Steel.

From the political economist view, Shin and Chang (2005: 410) claims that even before the IMF programme "mission creep", the liberation processes of the economy had already been willingly proceeded by the then government (then President Kim Young-sam) since the early 1990s. They go further to conclude that:

[7] See http://www.fightingftas.org/ for one of anti-FTAs organizations in Korea.

> "The Korean experience also suggests that the radical transformation of its economy towards an idealised version of the Anglo-American system has incurred huge transition costs in the economy while bringing only a few benefits. These costs were mainly the result of incompatibilities between the newly introduced institutions and remaining components of the old economic system, which has created a *vacuum* in the risk-taking function in the economy" (ibid: 430).

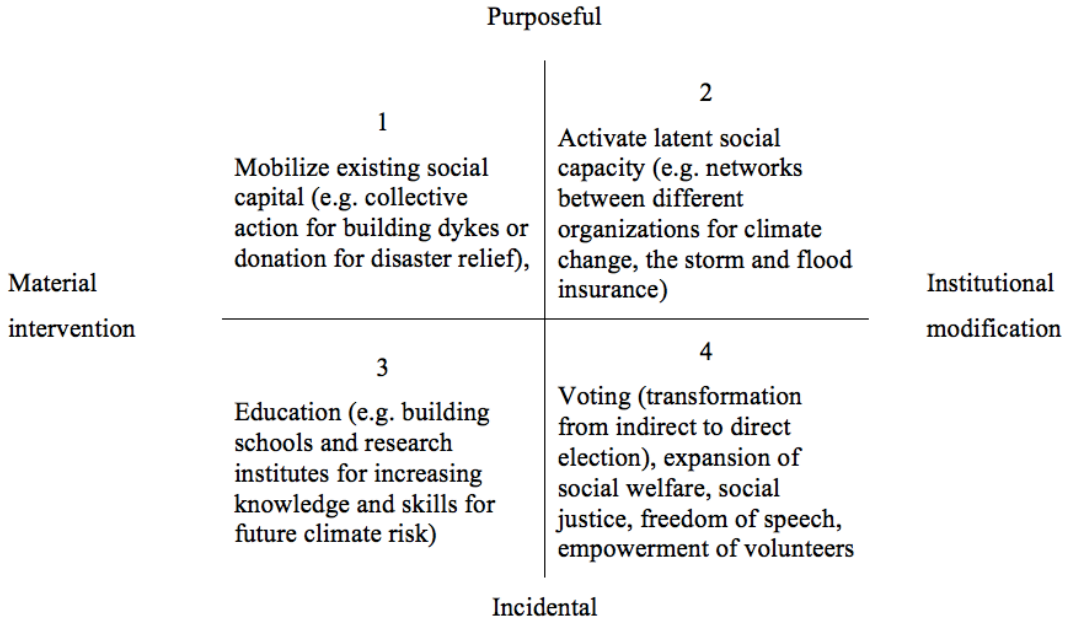
As Crotty and Lee (2002: 23) rightly put it, "what is surprising perhaps is the shocking extent of the damage done to Korea's economy by the IMF and President Kim *Dae-jung* in such a short period time."

It is beyond the scope of this research to fully depict the post-financial crisis situation in Korea, however, one issue remains of particular interest to this research project in terms of how it impacts the attainment of social resilience and the capacity for CCA and DRR. This issue is the extent to which a chain of political and economic incidents and subsequent institutional reforms might have opened up a political space in which the advisability and sustainability of previous development paradigms can be normatively and politically questioned.

A series of political and economic upheavals have incidentally, yet *indirectly* provided Korean society with a chance to reflect on the legitimacy of compressed development. For example, the former two opposition party governments from 1998 to 2007 (the first opposition party President Kim Dae-jung, and his successor Rho Mu-hyun) were at pains to instil the norms of participatory democracy in the wider political sphere of Korean society. Public participation in civil society was further broadened in this period when various issues beyond simple political democracy were addressed. These included economic and environmental justice, watchdog activity for blacklisting and boycotting corrupt candidates and politicians, and an anti-*Chaebols* movement (Lee and Arrington, 2008). This top-down endeavour to liquidate the legacy of authoritarianism has led Korean NGOs to address non-materialist values that were nearly completely ignored during the periods of compressed development (ibid.). In the meantime, the Keio University survey illustrates that 72.2% of Korean respondents trusted NGOs "greatly" or "somewhat"; which contrasts sharply with the 22.1 % trust level for the Korean government (ibid: 78).

Ironically, it is argued in this thesis that the neo-liberal reforms under the Kim and Roh presidencies led to an expansion of the social security system in post-financial crisis Korean society. The reforms took in place and have continued to be extended in four major policy realms; those of unemployment insurance, health insurance, the national pension programme and Minimum Living Standard Guarantee (MLSG). Shin (2000: 83) attributes the underlying causes of this welfare expansion to "the change of policy networks from a symbiotic alliance between the state and business to a tripartite corporatism and growing social demands for social welfare" from civil society. In contrast, some scholars argue that the expansion of social welfare is exaggerated rhetoric or partially undertaken to further encourage industrial growth and competitiveness (Kwon and Holliday, 2007).

Figure 2.1 Mapping adaptive capacity through social capital



Source: Adopted from Pelling and High (2005: 312).

Figure 2.1 illustrates the ways in which society can encourage the development of social capital and networks in order to increase communities' access to material and institutional assets for CCA and DRR. Pelling and High (2005) urge that we must place greater attention on quadrants 2, 3 and 4 in the figure, if we are to grasp a fuller picture of adaptive capacity. Quadrant 1 is an area where social capital is intentionally materialized by society to deal with the risk of climate change. While significant, focusing on only this dimension will not bring about any balanced measures for

dealing with CCA. Chapter five shows that existing and alternative discursive alliances – each with different worldviews, logics and ideologies – fight over the FRRP (activity belonging to quadrant 1). Indeed, it seems crucial to question and scrutinise the formation and implication of political conflict among collective actions within and between each quadrant. This core issue of disaster politics is dealt with throughout empirical chapters of this thesis.

2.2.6. Imbalance as the legacy of compressed modernization

The issue of CCA and DRR has become an increasingly crucial object of climate change and development policy worldwide (Gaillard, 2010). Similarly, the Korean government has started to deal with the issue of CCA if in a partial way. For instance, a large technology-oriented civil engineering project, the FRRP, with funding of 17.3 billion US$[8] was disguised as a proactive CCA measure. More evidence will be given in empirical chapters that different parties use the issue of climate change risk (more precisely perception of climate risk) for different purposes. This phenomenon – disaster politics – is not limited only to Korea. Yet, unique is the way in which real and socially constructed risk either remains apolitical or partially politicalised in Korea. Spatiotemporally heterogeneous values, ideas and interests are interlocked to generate political tension and conflict; and this is due largely to the growth-centred tenet of compressed development.

Not surprisingly, contemporary Korean society is experiencing emergent environmental shocks and stresses (Section 2.6). It is argued in this thesis that research into most climate risk challenges in Korea should be based on an understanding of her developmental path. Before delving into dual-risk as the legacy of compressed development, the subsequent section discusses key concepts such as climate change, disaster, risk and vulnerability and adaptation. A full understanding of these concepts is important for the discussion in Section 2.6 and empirical chapters.

2.3: Key concepts: climate change, risk, hazard, vulnerability and, disaster

Conventionally, the vast body of research on climate change risk has been directed towards projecting the likely impacts of climate change on society (Allison et al., 2009,

[8] This project initially aimed to construct a Grand Canal, which was one of President Lee's presidential election pledges. Yet, due to severe resistance from civil society and religious organizations the project has changed its title and aims to restore four major rivers in Korea. Despite this, there are still some opponents who claim that the Four River Restoration project is the pre-construction phase of the Grand Canal project.

Berkhout et al., 2006, Chung et al., 2011, O'Brien and Leichenko, 2000, Reser and Swim, 2011, Smit et al., 1999, Urwin, 2005). Lately, however, the intellectual leaning towards scientific positivism has become less influential. As an instance, institutional partnerships amongst global, national and local organisations and different epistemologies are in progress. The Special Report on Managing the Risks of Extreme Events (SREX) is one of the outcomes of such international and multi-disciplinary cooperation (Seneviratne et al., 2012).

This section will develop the core conceptual debates within political ecology, political economics and sociology. Essential concepts such as climate change risk, vulnerability, climate change adaptation, development, and compressed modernization (or development) will be explained. The main intention here is not to enumerate a wide range of concepts produced by various theorists. Rather, this section seeks to offer an essential understanding of the concepts upon which the following debates can be effectively based. Before moving onto next section, it is necessary to borrow existing definitions of risk, hazard and disaster.

Box 2.1 Key terminologies

Risk: To be threatened by harm. To be at risk is to be under threat of harm.
Hazard: The potential to harm individuals or human systems. In this work, hazard is ascribed to natural, physical or environmental elements. It can be everyday (scarcity of clean drinking water) or episodic (volcanic eruption).
Disaster: The outcome of hazard and vulnerability coinciding. Disaster is a state of disruption to systemic functions. Systems operate at a variety of scales, from individuals' biological and psychological constitutions or local socio-economies to urban infrastructure networks and the global political economy.

Source: Adopted from Pelling (2003c: 5).
Note: a translation issue of these terms from English to Korean is discussed in Section 4.3.5.

2.3.1. Global climate change risk

Among others, there are three considerable policy approaches to the issue of climate change risk: mitigation, compensation and adaptation.

Despite the fairly high levels of attention paid to mitigation it never will be a panacea for solving climate-related risk problems for at least three reasons (Pielke et al., 2007).

The first reason is a mismatch of timescale. The amount of Green House Gases[9] that has *already* accumulated in the global atmosphere is severe enough to bring about critical risk challenges to human beings, regardless of how successfully mitigation is effected. Second, the climate has never been stable by nature. Hence, human beings have always faced environmental hazard risk, especially when environmental changes and social vulnerability coincide. Third and not least, the need to address the issue of adaptation is becoming increasingly important around the world, with calls coming particularly from those who will suffer the most from climate change risk. Added to these factors, the adaptation deficit argument is worth noting (Burton, 2009).

2.3.1.1. Ecological thresholds

Thanks to its descriptive power, the traditional perspective has helped outline possible scenarios of the future impacts of climate change (Füssel, 2007). The central concern of this perspective is to question how far the changing climate will drive society beyond an *acceptable* (or tolerable) level in confronting climate risks. The concern has been represented in terms of "ecological thresholds, where a threshold refers to a state in sensitive ecological or physical systems beyond which change becomes irreversible" (Adger et al., 2008: 337). This climate determinism is also couched in the language of "burning embers" and "tipping points" (Kriegler et al., 2009, Liverman, 2009). These modes of expression call attention to the physical dangers associated with future climate change: e.g. sea-level rise, desertification, deforestation, changes in marine population and the like. However, even if irretrievable (either abrupt or gradual) changes in bio physical systems could seriously threaten human-beings, such environmental determinism seems partial for the following reasons.

A large part of the reason for this is that there is no universally fixed criterion by which to decide what level is acceptable and legitimate. Deciding upon an acceptable level inevitably entails the question of value judgment, individual/societal perception of risks, and political negotiation within the societal milieu (Adger, 2006, O'Brien et al., 2006). For instance, the similar impacts of a "threshold-breaching" natural disaster can be quite dissimilarly confronted by different cities, depending on their adaptive capacity, affordable resources and infrastructure, such as the transport system (Pelling,

[9] The UNFCCC (http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php) identifies six GHGs that are involved in global warming. These include Carbon dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), Hydrofluorocarbons (HFCS), Perfluorocarbons (PFCS), and Sulphur hexafluoride (SF_6). Among these, the greatest concern is about CO2, as a result of the huge amount of it already released into the atmosphere and the possibility of its further increase.

2003b: 7). It is further argued that much attention should be paid to "adaptation thresholds" that can be breached by the interlocking of social construct of risk, hazards and vulnerability (Pelling, 2011: 70).

2.3.1.2. Separation between the climate change and variability

It should be also questioned whether separating anthropogenic climate change from climate variability is possible, and if so, why it would be desirable. This issue is now less controversial since the IPCC has taken both seriously. The advance in environmental sciences is expected to result in GHGs polluters facing more lawsuits for precipitating environmental risks of climate change (Allen and Lord, 2004). Besides the mitigation policy, scientific development can help implement another climate policy, "compensation"; the latter justifies that CO2 polluters should technically and financially compensate the South for suffering from the adverse impacts of climate change (Füssel, 2007). For good reason, this justice issue remains very important. In addition to justice in mitigation, several researchers point out the significance of the justice issue in adaptation (Paavola, 2002, Paavola and Adger, 2002, Schneider and Lane, 2006, Paavola et al., 2006).

The empirical difficulty of maximizing benefits out of compensation to fortify local and regional capacity can be understood by examining the CDM projects under the United Nations Framework Convention on Climate Change (UNFCCC). The main aim of the CDM projects is to promote Annex one parties (rich industrial countries and countries with transitional economies) to invest in mitigation projects in non-Annex one countries, thereby reducing the potential amount of GHGs that would otherwise be emitted if no such projects are carried out (Lloyd and Subbarao, 2009, Subbarao and Lloyd, 2011). Another aim is to enable sustainable development in non-Annex one parties. Thus, the mechanism arose as an attempt to bridge the gap between the differing interests of the North and the South. Unfortunately, however, the benefit of the CDM has not been substantial, because of a variety of obstacles, such as transaction costs, a range of monetary "risks for investors" and institutional obstacles (Del Río, 2007: 1365). The CDM projects have tended to take place exclusively in large developing countries such as China, India and Brazil. Small countries might need locally based small projects that do not necessarily promise the investors a large profit in terms of getting the Certified Emission Reductions (CERS). It is not difficult to

understand why the CDM has practical limitations in promoting SD in non-Annex one parties, especially small and poor countries (Lloyd and Subbarao, 2009).

Taking one of examples regarding the above issue, Yamane (2009) emphasizes the need to reconceptualise the CDM (e.g. addressing from cost-effectiveness to livelihood and capacity building) to include small scale, yet be practically conducive to the livelihood of the vulnerable population in Sri Lanka. For instance, traditional farming and a CDM project can be integrated into increasing the resilience of the local community to environmental risks, such as drought (ibid.). At the moment (the first Kyoto protocol period from 2008-2012), farming does not come under the CDM projects. Despite the fact that the notion of "mainstreaming" climate policy into overall development objectives has been well acknowledged in literature (Klein, Schipper, Dessai, 2003: 8; Schipper, 2007: 7), there are no "concrete" mechanisms for carrying out such mainstreaming (Liverman, cited in Yamane, 2009).

However, even compensation will not necessarily encourage individual and social protection from environmental hazard and climate change risks. One of examples is the *Samaritan's dilemma* that denotes the situation in which humanitarian assistance becomes rather "a disincentive for preventative action" and the source of long term vulnerability to natural hazards (Schipper and Pelling, 2006). It is important to bear in mind that financial and technical compensation should be directed towards promoting the overall adaptive capabilities of local people, for example through economic assets, political stability, educational development, cooperation at various levels, and social resilience. This claim has huge implications to the *modus operandi* of the Green Climate Fund (GCF). Crucial is that separating the impacts of humanly-induced climate change and natural variability is of little use unless it leads to developing individual and social capabilities for coping with both short and long run exposure to natural disaster and climate change risks.

2.3.1.3. Dangerousness of the mitigation logic

Narrow definitions of global climate change can backfire. Clinging to mitigation logic might give society a wrong signal that can be interpreted to justify any activities on the pretext of reducing GHGs, but at the expense of other important values, goals, norms, and urgent tasks. Building a nuclear reactor and constructing reservoirs, floodwalls, and revetments for improving the quality of water and flood control may have some

socio-economic benefits. Yet, such engineering-dircted projects are revealed to be very costly, ecologically harmful and even somewhat detrimental because they create "new risks of their own" (Mustafa, 2009: 465); and "a false sense of security" (Pelling, 2001: 172). More serious, however, is the (mis-)use of dominant discourse on climate change by actors with political/economic power, such as the state government or industrial sectors, who aim to cement vested rights through (business-as-usual) development projects. This is seriously problematic since the latter could hinder actions necessary in the future for tackling climate change-related risks. The term mal-adaptation comes to mind, and this point will seriously debated in empirical chapters of this thesis.

2.3.2. Vulnerability

The inquiry into what renders Korean society so susceptible to multiple hazard risk turns our attention towards the concept of vulnerability. The current research does not directly conduct research on vulnerability assessment. Yet, the concept of vulnerability is too important to ignore in this research. This is most importantly because the concept helps to sketch out the way in which dual-risk of Korean society emerges. Rapid urbanisation of Seoul has completely changed exposure profile as will be seen in the case of urban disasters in Seoul in Chapter six: e.g. basement flats, residential areas adjacent Woomyeon Mt., and increasing urban inundations. It is also argued in Chapter seven that the construction of the naval base in Jeju will possibly generate new exposure of the navy to future typhoons. The discussion about developmental resilience (section 8.2) and political reflections and institutional constraints in empirical and concluding chapters would have been impossible without considering the conceptual development of vulnerability.

What would negate the increased human, physical and financial capital in Korean society in dealing with the vulnerability to natural hazard and climate risks? Differently put, when the impacts of natural/technical hazards continue, or are expected to increase in the future, what can be done, and how? Who should define the risk problems, and in which particular political and institutional settings? These contextual questions can better be answered in terms of how the concept of risk comprises both hazard and vulnerability (Wisner et al., 2004: 49). Thus,

■ Risk = f (Hazard × Vulnerability)

This formula can be extended further into one that addresses the issue of climate change and natural disaster risks in many different ways. Yet, this research focuses on elaborating the subordinate concepts of vulnerability (see Section 2.3.2.5). For this reason it is necessary to examine the conceptual development of vulnerability that has been ably done in the social science studies. Climate change risk can jeopardize societies in more complex ways than those narrowly perceived by the techno-centric perspective towards climate change risk. It is not a new, though less dominant, idea that human vulnerability to the risk of environmental hazard will manifest in both natural, and socio-cultural and political-economic contexts (e.g. socionature thesis, see Castree and Braun, 2001). Non-climate factors shape the ways in which the social realities of vulnerability to climate change are (re)produced (Adger, 2006, Adger and Brooks, 2003, McLaughlin and Dietz, 2008, Pelling, 2003c). It is very important to appreciate the contribution of hazards study, development economics (entitlement approach), and human/political ecology to our understanding of social vulnerability, which has its conceptual roots in the social science studies.

2.3.2.1. Vulnerability as physical exposure

Vulnerability to climate change risk can broadly be identified by "an end point" and "a starting point" perspective as in the literature such as Füssel (2007), O'Brien and Nygaard (2004). The end point (outcome) approach sees vulnerability as a remaining impact after the overall, estimated impacts of climate change are avoided by relying upon scientific instruments such as General Circulation Models (GCMs) and taking (rational) actions, based on technological/engineering approaches. Rational action "start[s] by evaluating the problem of climate change (assessing exposure), mapping possible solutions (possible adaptation [and mitigation] measures), and, through a cost-benefit approach, the best and most feasible adaptation measure(s) would be decided and simply implemented" (Inderberg and Eikeland, 2009: 433). Thus,

■ Vulnerability = exposure to physical impacts of future climate – (rational) adaptation/mitigation

This outcome perspective and the mitigation logic resemble each other as both approaches regard the cause of vulnerability to be simply physical. They also lack serious inquiry into the underlying socio-political causes of vulnerability. Yet there is

“a growing realisation that using technological and engineering approaches to mitigate losses deals only with symptoms, not causes” (O'Brien et al., 2006: 70).

2.3.2.2. Human ecology approach

It was the behaviourist approach that initially critiqued the limits of engineering approaches to dealing with natural hazard problems (Mustafa, 2009). Among pioneering works employing this perspective are White (ibid.) and Kates (1971, cited in McLaughlin and Dietz, 2008). Their concerns are based on the role played by personal and collective perceptions of risk in affecting the ways people respond to natural hazards (Mustafa, 2009). It might be right to say that the same kind of natural hazard, say, flooding can induce different responses depending on how the individuals affected by hazards perceive of it. This point rightly confutes the naive belief that technological solutions – e.g. building levees, sea walls, and reservoirs – are the only way forward in dealing with natural hazards and climate-related risks. However, this does not imply that hazards management can be entirely predicated on understanding risk perceptions and the behaviours of individuals. Besides, if rightly prepared and implemented, engineering works can help in protecting societies from natural hazards; for example by earthquake/fire-proofing buildings (Pelling, 2001).

Again, what renders the behaviourist perspective vulnerable to criticisms is its lack of concern about the underlying social structural and political causes of vulnerability (ibid.). One harsh criticism is premised on the below political economic research.

2.3.2.3. Vulnerability as a lack of entitlement (political economy approach)

Political economy studies have offered an understanding of the political and economic factors that create vulnerability to crises and natural hazards. Much of the initial work applied the integrated framework of vulnerability in the case of Africa so as to explore “the underlying social causes of famine” (Mustafa, 2009: 467). Vulnerability to the risk of famines or other crises is a product of not simply a lack of “food production and agricultural expansion” or environmental extremes but “the functioning of the entire economy and – even more broadly – the operation of the political and social arrangements that can, directly or indirectly, influence people’s ability to acquire food and to achieve health and nourishment” (Sen, 2001: 162). Although the concept of famine and vulnerability differ, we can learn much from the above passage; the “entitlement” of individuals, poverty, and political powerlessness is closely related to

"the incidence of hunger" (ibid.). This indicates that freedom and the capabilities of individuals, together with enabling the social milieu are the driving force in either creating or eliminating human vulnerability to environmental hazards (Adger, 2006).

Sen's entitlement approach, however, captures the idea that the accumulation of wealth or physical capital is of little use if it ends up being merely the ends to development. Rather, economic growth should be the means to achieve a range of values that individuals, organizations, and societies wish to promote – e.g. freedom or capabilities (Sen, 2001). However, the exclusive focus of this entitlement approach on the social and institutional causes on famine leads it to disregard other causal factors, such as war and pandemic disease (Adger, 2006: 270).

2.3.2.4. Political ecology and the Pressure and Release (PAR) model

While there is much to learn from the entitlement perspective, political ecologists argue that the entitlement perspective does not account for the role played by the environment as an "independent variable", as well as that played by "human agency and culture" in generating vulnerability (McLaughlin and Dietz, 2008: 102). Thus political ecologists attempt to re-embed the natural environment into analysis of social vulnerability to the risk of hazard and climate change. Besides, the political economy approach is contested on the grounds that it tended to focus on the case of a single hazard, famine. Thus, the political ecology approach initially emerged in the late 1970s as an attempt to integrate human ecology and political economy in order to explore the socio-natural relationship in which social vulnerability to a range of natural hazards strikes is produced (ibid.). In the broadest terms, the political ecological perspective has underscored "the dialectic between environmental and social change" (ibid: 104). Moreover, it seriously contests the taken-for-granted, Euro-centric discourses and narratives that are not universally applicable in other geographies and contexts (Pelling, 2003b: 10-11).

Blaikie and his colleagues (Wisner et al., 2004) developed the PAR model, placing attention upon the ideologies of the political economy system and the physical impacts of hazard so as to produce a causal explanation of natural disaster risks. The PAR model dealt with striking a balance between two pressures: hazard and vulnerability. Adger (2006: 272) however argues:

> "In being comprehensive and in giving equal weight to 'hazard' and 'vulnerability' as pressures, the model fails to provide a systematic view of the mechanisms and processes of vulnerability. Operationalizing the pressure and release model necessarily involves typologies of causes and categorical data on hazard types, limiting the analysis in terms of quantifiable and predictive relationship."

His argument points out that the vulnerability to natural disaster and climate risks needs be analysed in an integrated manner that addresses evolutional aspects of the vulnerability, that is, exposure, sensitivity and adaptive capacity.

2.3.2.5. Integrated approach to vulnerability

As mentioned above, structural changes such as globalization, modernization and urbanisation can alter the entire characteristic of the interconnectedness of vulnerability between all scales in the Socio-Ecological System (SES): for example, a geographical scale for epidemiological systems (Daily and Ehrlich, 1996). Local vulnerability to the risk of coastal flooding in Philippines might be a product of climate change. This in turn has been caused by massive industrialization within other parts of the globe. It is also possible that the rapid industrialization of Korea is a source of global environmental changes. Individuals' vulnerability to environmental hazards (e.g. farmers or fishers) in Korea can be shaped by both the financial crisis in 1998 and the heavy snowfall in 2009 in one way or another.

The integrated approach seeks to broaden our understanding of the complex linkages between the "properties of social-ecological systems" (Adger, 2006: 272). This approach to vulnerability is suitable for explaining and understanding vulnerability to climate change risk since climate change is an issue at diverse spatiotemporal scales, involving diverse stakeholders (ibid.). According to Adger and Brown (2009),

■ Vulnerability = f (exposure × sensitivity/resilience × adaptive capacity)

The three constitutive elements, exposure, resilience and adaptive capacity, are explicated as follows.

Exposure

The exposure of individuals, communities, and nations to environmental changes constitutes the concept of social vulnerability. For instance, poor housing adjacent to a

coastal area increases exposure to coastal flooding or tsunami. Besides, it is often witnessed that tourism development in a certain area and time attracts both labour and tourist populations, and then makes them highly vulnerable to environmental hazards – e.g. the Indonesian tsunami of 2004. Exposure is therefore a product of physical location and timing (Pelling, 2003c: 48). Yet, the timing and location of the exposure to hazards are not naturally given; they follow intentional and accidental decision-makings prior to the incidence of calamities for a range of reasons such as industrial development and urbanisation.

Wealth and political power do not totally protect people from disaster risk. The most vulnerable and marginalized such as women, children, the elderly, the poor, and the disabled tend not to partake in the decision-making processes relating to where to live or work (Mustafa, 1998: 300). This point is extremely important that social changes in pursuit of decreasing exposure to hazards can be either hindered or encouraged (see empirical chapters).

Consider another case, that of a cabdriver during the heavy snowfall in December 2009 in Korea. Cabdrivers can be divided into the self-employed and employees working for a taxicab company. The so-called '100 year heavy snowfall' lasted for nine days in December 2009 and increased the toll of dead and injury from traffic accidents by about 65% on the daily basis. While averting the possible accident by taking a day off means *no* income to the self-employed, it means *minus* income to employees because they are obliged to pay a fixed fee to the taxicab company, regardless of the weather conditions. The different forms of employment can place the employees at greater risk than the self-employed. There being no institutions that explicitly guide the behaviour of cabdrivers and companies, no compensation is given to the employees for taking risks. The right to avoid environmental hazards is apparently subject to the social structure of employment and access to economic assets; getting a license for running the self-employed cab in Korea costs about US $80,000.

Resilience

The concept of resilience, which has its origins in ecology, offers a powerful perspective for analysing interactions between nature and society (Adger and Brown, 2009). The resilience of ecological and social systems refers to their buffering ability,

through absorbing perpetuations and external stresses, to continue functioning without undergoing irreversible changes (Adger, 2000b). In the social system, the unexpected occurrence of environmental hazards can be dealt with by both proactive and reactive policy initiatives including insurance – a social distribution of risks (Pelling, 2003c: 48-9). Resilience theorists have also noted that the resilient SES system has the learning capacity in the presence of changes, uncertainty, and diversity, bringing together heterogeneous knowledge, and yielding a chance for self-organisation (Berkes and Seixas, 2005).

By resilience of the system, however, we do not just mean a systems ability to return to its pre-disaster state, although this is often how the concept is defined. A resilient society can take crises as an opportunity to learn and renovate its social structure and institutions so as to extend its adaptive potential for tackling future threats and shocks (Dodman et al, 2009; Yamane; 2009). In this regard, adequate social development directed towards extending individual excess to entitlement, livelihood assets, and empowerment is necessary, if not sufficient, for promoting the resilience of society (Dodman et al, 2009). Moreover, unlike some definitions of resilience as simply being an antonym of vulnerability (e.g. Paton, cited in Beatley, 2009: 11), this research considers resilience, that is, an internal nature of the socio-ecological system, to be a constitutive concept of vulnerability (Füssel, 2007).

There have been efforts to integrate the idea of resilience with social contracts. As O'Brien et al. (2009) and Pelling and Dill (2009) argue, the legitimacy and capabilities of the government can be put into question when society is hit by environmental catastrophes. O'Brien et al. (2009) emphasizes three implications of resilience thinking for social contract theory. First, as mentioned above, the nature-society dualism is less helpful in addressing environmental risk problems. It is important to take into account not only what human beings do to nature, but also how social interactions influence the production of environmental risk, for example. Second, *uncertain* thresholds, cascading impacts, and surprises are "inherent attributes of complex systems." This means that learning to live with uncertainty is becoming extremely important (Pelling, 2011). Third, climate change has wide-ranging effects on all scales of human society. Hence multi-scales of governance (global, national, regional, and local) need to be taken into account. There is a burgeoning body of literature on institutional adaptation

to climate change risk (Adger, 2000a, Chhetri et al., 2012, Healey, 2006, O'Riordan and Jordan, 1999, Rodima-Taylor et al., 2012, Young, 2010).

Yet within the vast territory of institutional studies of CCA and DRR there remains a large piece of uncharted terrain in the context of current Korean society. Section 8.2 frames the concept of "developmental resilience" and its relationship with two types of freedom in the context of the Korean post-developmental state. Thus, the process by which Korean society became risk society significantly differs from western societies, and this partly accounts for the reason why political reflections on emerging dual-risk are accordingly different from those of western Risk Society.

Adaptive capacity

There are several accounts of the determinants of adaptive capacity for climate change: economic wealth, health and nutrition, geography and demography, technologies, education, infrastructure, gender, social capital, and information (Allen, 2010, Dayton-Johnson, 2004, Folke et al., 2002, Grothmann and Patt, 2005, Haddad, 2005, Klein, 1999, Smit and Pilifosova, 2003, Smit and Wandel, 2006, Pelling and High, 2005, Upton, 2012, Yohe, 2002). The enabling social milieu is equally important for CCA (Adger et al., 2005, Inderberg and Eikeland, 2009). The capacity of a household to respond to environmental hazards can be limited by the environment of community, social norms, customs, moral codes, formal laws, and the configuration of all of these (Adger, 2000a, Smit and Wandel, 2006, Pelling and High, 2005). The characteristic of adaptive capacity is as heavily path dependent as it is "location and context specific" (Smithers, 1997: 131).

The government, community, and organisations can learn much from this holistic view of vulnerability and from the resilience approach, which holds that *knowing* of physical changes alone cannot protect society from climate change risks. In addition, the non-linearity of the cause and effect of natural hazards from climate change points out that prediction does not offer what it is believed to provide. Even if one knows exactly the characteristics of a single natural hazard, adaptation can fail due to the lack of adaptive capacity, the incidence of coupled stresses from other hazards such as technical hazards, deteriorating social relations, a lack of institutions, and so forth. Equally important is that the existence of socially accepted meanings will not

automatically bring about adaption if a society lacks motivation and political will. A similar degree of risks continues to influence society while altering the configuration between and nature of the components of the risks: hazards, exposure, resilience and adaptive capacity.

2.4: Discourses of development: any space for disaster and climate risk?

Past development orthodoxies, such as the Keynesian, neo-classical economics, and socialist theory, are now put into question by alternative schools of development (Peet and Watts, 1996). One is what came to be termed – neo-liberalism, the Washington consensus and market fundamentalism (Maxwell, 2009). Another is the developmental state discourse, the analytical focus of which lies upon the recent development experience of the East Asian Newly Industrializing Countries (NIC), such as Korea, Taiwan and Singapore (Peet and Watts, 1996). Yet, neither of these discourses has *seriously* engaged with the wide-ranging debate upon institutions outside the state and market, such as social norms and social networks, due in part to their exclusive emphases on the roles of the state and the market respectively (ibid: 25). Rejecting both extreme positions, the current research sheds light into the new discursive alliances (civil society, political entrepreneur and academics) to emerging hazards risk throughout the empirical chapters.

In response to unrelenting poverty, inequality and ecological deterioration, the discourse of sustainable development (or sustainability) came to prominence (Kemp et al, 2005). There was a significant effort to define the term in 1987, after the Brundtland report presented the idea of "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Pearce and Atkinson, 1998: 4). Whilst influential, the definitions of sustainable development have differed, depending on the specific perspectives and disciplines of the researchers (Bell and Morse, 2003, Mog, 2004).

2.4.1. Dealing with vulnerability for sustainable development

It is worth considering, among others, two major schools of sustainability: e.g. the economist capital model (Pearce and Atkinson, 1998) versus the ecological model (Rees, 1990, cited in Redclift, 1992). The divide between these comes from differing ideas about what to sustain; for the former eradicating poverty through the implementation of more effective economic growth together with inter- and intra-generational equity is important; while the latter emphasises the conservation of the

environment, particularly renewable natural resources (Redclift, 1992). A detailed account of the concept of sustainable development is beyond the scope of this thesis (instead see Redclift, 1992). Yet, one point stands out here. In the context of "sustainable urbanization", Pelling (2003c: 10-12) argues that neither school pays serious attention to the relationship between sustainability and vulnerability.

Taking a similar view, Yamin et al. (2005: 7) categorise different thoughts of development, according to "different policy and institutional frameworks"; 1) mainstream development (poverty reduction); 2) basic needs/human development (well-being and human development); 3) rights-based approaches (human right standards); and 4) sustainable livelihoods ("long-term and large scale trends", shocks and seasonality). Yet, none of these approaches alone appears sufficient. Despite their fruitful inputs to research and policy regarding climate change adaptation, the first approach lacks the essential quest for vulnerability to environmental risk; the second approach heavily relies on normative rather than practical relevance; the extent to which the third one can contribute to "long-term changes in the distribution of economic resources and political power" is quite uncertain; and the sustainable livelihoods approach does not reflect the rapidly changing social structures in rural areas in developing countries; nor the uncertainty of climate change risk.

These points are extremely important if this thesis is to appropriately explore the politics of disaster in Korea. Actually, the political economy of the Korean economic development is "well studied, even over studied" within the development studies (Kohli, 2004: 84). There is abundant academic literature that scrutinizes the rapid economic growth of East Asian countries including Korea, depicting it as *miracle* (Amsden, 1989, Amsden, 1994, Hobday, 1995, Johnson, 1982). In terms of the political transformation of Korea, the consolidation of democracy since the 1987 democratization is also described as *miraculous* (Chaibong, 2008; Minns, 2001). This thesis does not reiterate the reasons why such miraculous events came about. The current research inquires into less addressed aspect and phase of the miraculous transformation – dual-risk.

2.4.2. The need for the developmental lens

A developmental perspective informs the subject of this research in two broad ways; through the dynamic linkage between past, present and future institutional

arrangements, and through the relationships amongst themes and practices regarding development, climate change and disaster risk reduction (Schipper and Pelling, 2006). By posing several questions, this section makes a provocative, if not decisive, argument that the issue of disaster risk and CCA should be dealt with in terms of a broader development perspective.

First, adaptive capacity and the enabling socio-political milieu fundamentally rely on, but are not limited to, the nature of the developmental path that a society has undergone (Adger, 2000a, Pelling, 2003c). Among others, the types of governance, social contracts (O'Brien et al., 2009) and social networks (Adger, 2003) are important proxies for understanding CCA in terms of the developmental path. The incidental outcome of development, which nevertheless influences adaptive capacity, also needs particular attention. Furthermore, societies facing uncertain climate risk will engage in the processes of future-oriented innovation (including consolidation and stasis).[10] At this point, several questions stand out: will the current institutional configurations, dominant visions of development and the characteristic nature of social capital properly protect Korean society from the risk of climate change? Concomitantly, how can political actors in local settings adapt to the threshold and cascading effects of climate change given an adaptive logic deeply embedded in social norms and culture? If sustainable development is the *only* way forward to deal with climate change risk, as Parry (2009) argues, how differently do people with different interests and backgrounds conceive of it? Is there any room for political entrepreneurs to modify the existing set of institutions or core ideas to address the issue of the risk of climate change (Warner, 2003)? These vital, yet contextual questions can only be answered in the context of institutional change and the broad trajectory of the political economy.

Second, three issues; disaster risk reduction, development and climate change, all have synergetic effects on each other in both theory and practice: (Schipper and Pelling, 2006). Therefore, they need to be dealt with jointly in order for practices to be effected successfully in each of these fields. However, this had not been the case until recently. A decade ago, Burton and Aalst (1999, cited in Smit and Pilifosova, 2003: 24) noted that development initiatives did not "take risks of climate change into account."

[10] Indeed, it is argued that uncertainty stemming from "a gap between the agent's competence and the difficulty of the decision problem" is seen as the source of institutional change (Heiner, cited in North, 2005: 14). Yet, this does not mean that uncertainty always brings about institutional changes.

Dominant schools of development (e.g. neo-classical economists) take it for granted that the environment is "benign" and will have little effect on the processes and outcomes of development (Pelling, 2003b: 4-5). However, as recent catastrophic events such as the 2004 South Asian Tsunami show, natural hazard disasters can undo decades of development work. At the same time, they also have the potential to open windows of opportunity for social and political change (Giovinazzi and Giovinazzi, 2008). Ironically, the IPCC did not pay sufficient attention to natural disaster risk reduction until the fourth assessment report (AR4) was published in 2007. Despite recent attention to a risk perspective that informs climate change adaptation, we had until recently yet to see a "comprehensive assessment of the disaster risk reduction and management policies and measures" (n/a, but see footnote 11).[11]

Over the last decade, however, increasing attention has been placed on the issue of mainstreaming climate change and disaster risk reduction into development initiatives (Halsnæs and Trærup, 2009). Many organizations have thus far promoted cross-fertilization among the three realms of theory and practice – e.g. the United Nations Development Planning (UNDP); the Institute of Development Studies (IDS); The UK Department for International Development (DfID)**;** International Federation of Red Cross and Red Crescent Societies; the Provention Consortium; the Institute for Social and Environmental Transition (ISET). Nonetheless, the research projects of these institutions tend to focus on cases in either rich or poor countries, but give less attention to those countries, such as South Korea, that have recently experienced social transformations after experiencing an economic growth miracle (Amsden, 1994) and miraculous democratization (Chaibong, 2008). Yet does Korean society express any prospect of *miraculous* CCA and DRR? Do recent changes in the institution of the state and civil society contribute to the production of social vulnerability?

2.4.3. Structural approaches to risk (manufactured and natural)

Among others, two incisive theories address the issue of disaster risk in light of social structures: the Pressure and Release (PAR) model (Wisner et al., 2004) and the Risk Society thesis by Ulrich Beck (Beck, 1996). Despite regarding poverty and vulnerability as different, the PAR illustrates the way in which the underlying social structure of poverty and political inequality along with other pressures from natural

[11] See "a proposal for an IPCC special report on managing the risk of extreme events to advance climate change adaptation". http://www.unisdr.org/eng/risk-reduction/climatechange/docs/IPCC_Norway_ISDR_ system Proposal.pdf

hazards fundamentally shape the way natural disaster occurs, and is experienced (Wisner et al., 2004). Risk Society thesis has much more to offer in illuminating the *manufactured risk* created by modernization (Beck et al, 2003). Far beyond tinkering with single policies, both schools call for institutional innovation and transformative change that require "a novel or unprecedented departure from the past" (Hargrave and Van de Ven, 2006: 866).

The two schools alike criticise idealist and overly constructivist perspectives of the post-modernist school (Beck et al., 2003, Wisner et al., 2004). In addition, the two theses are geared towards exploring, if not *exclusively,* the case of a natural hazard in poor countries and technical hazard in their industrial counterparts, respectively. Beyond that, both theories stop short of providing valid accounts of multidimensional risk facing the post-developmental states, such as Korea, which do not belong to the South and the North in terms of their developmental path (for the compressed Korean developmental path see below).[12]

A structural approach to either technical or natural disaster risk offers the theoretical basis on which to investigate the root causes of the incidence of hazard disasters. However, such an approach hardly mainly accounts for the role of individual and organisational agencies in modifying social structures for DRR and CCA in detail: e.g. social innovations by grassroots activists. This thesis upholds the necessity of structural inquiry, yet goes further to examine the role of agency within specific contexts of social structures and their changes in the construction of risk.

2.5: The Korean dual-risk society

A decade ago, scholarly dialogues sought to re-evaluate the legitimacy and efficacy of Korea's developmental path in the past, that is, the economic-centred paradigm of development (see Korea Journal, 1998, Vol. 38, No. 1). The dialogues, reflecting in time, emerged just as the 1997 Asian financial crisis hit Korean society severely. The authors in the volume of the journal generally agreed that the orthodox development paradigm of the time had reached its limit. It was not surprising at all to see that the Korean sociologists paid greater attention to the Risk Society thesis as Korean society

[12] The intention here is not to determine whether Korea belongs to the South or the North. Rather, the rapid changes in the social structures of the Korean political economy seem to have important implications for understanding the patterning of the manifestation of vulnerability to climate change risks in the Korean risk society.

underwent a series of serious, yet unprecedented disasters of different kinds and scales (Figure 2.2).

At the heart of the risk society thesis is the concept of *reflexivity* in "reflexive modernization" (Beck et al., 2003: 1). This concept holds that when society achieves a certain degree of modernization it *radicalizes* fundamental institutional arrangements and principles that had once been taken for grated (ibid.). Among others, these include "the nation state, the territorial organization of production, corporations and regulation, the sexual division of labor, the nuclear family, the restructuring of social knowledge, the creation of a hierarchy between experts and laymen" (ibid: 5). Current risks facing society also change in their nature from relatively knowable to largely unprecedented – climate change risk, BSE and swine flu; thus "risks come from and consist of unawareness (non-knowledge)" (Beck, 2000: 217). Yet in the above dialogue there was no account of Korean risk society in light of climate change and natural disaster risk. Drawing on this soft constructionist approach, the following section sheds light on the changing nature of risk in Korea in detail.

2.5.1: Change in structures of risk

In his essay *Rush-To Growth, Economic Crisis, Limping Modernization, and a Dual-Risk Society*, Kim Dae-Hwan depicts Korea as suffering from dually structured risk; one from insufficient modernization – a lack of social and political development; the other from successful industrialization and economic growth – manufactured risks (Kim, 1998). He does not explicitly address the issue of climate change risks, yet his contention that the "rush-to [economic] growth" paradigm has manufactured "dual-structured danger" in Korean society resonates (ibid: 43). Simply put, in this thesis dual-risk refers to the gap or mismatch between different values, whereby the society confronts both traditional and emerging types of risk in a rather complex way than other Western Risk societies.

In response to this assertion, Beck (1998: 201) notes that "[t]he Korean path to risk society must be understood in terms of a "dual-risk society". But this concept enriches the analysis of Western societies too, because "what is a dominant aspect in the Korean context might be an additive aspect in many parts of the West as well" (ibid).

Certainly, many Western countries might have confronted a similar pattern of dual-risk problems. Yet, what makes Beck's statement less persuasive is the likelihood that the rush-to growth ideology together with other strongly rooted ideologies, such as Confucianism, patriarchism, anti-communism and recently neo-liberalism, has deeply penetrated through Korean society, serving as the dynamic underlying cause of vulnerability and environmental crises. It is not easy to fully understand how urbanization and other global processes have increased and changed the impacts of natural hazard in local places in Korea. Failing to do so aptly explains the reason why risk problems recur (Blaikie et al., 1994: 30). Hence, an attempt to clarify the causal links between the root causes of and the actual manifestation of disaster risks is not wasteful, indeed, it is immediately practical.

As fully discussed above, Korea has been well studied in terms of her rapid economic growth and poverty reduction through the strong roles of the state and catching-up governance (Amsden, 1989, Chang, 2007, Evans, 1996, Evans, 1989, Henderson, 2002, Kohli, 2004). For the most part, however, serious debates have tended to centre on the question of how such dramatic economic growth could have taken place in Korea during such a short period of time? Rapid economic development is seldom seen by the development studies literature as an independent variable shaping the vulnerability profile of Korea. The lack of diverse angles on Korean economic growth is of little use in understanding the vulnerability of Korean society to climate change risks. However, it is argued, this gap can be filled by paying greater attention to ideas and concepts from sociology, ecological economics and political ecology.

Whilst creating more human, financial and physical capital, social capital. i.e. "trust and flow of communication", might have decreased to a meagre level in Korean society (Woo, 2007: 3). However, trust, good flow of communication, and collective action are of use in encouraging the adaptive capacity for coping with climate and natural risks. Of course, the presence of social capital and adaptive capacity do not always mutually reinforce each other. For example, in some cases social capital increases the social vulnerability of the elderly to heat waves (Wolf et al., 2010). Of importance is that the social aspect of adaptive capacity should be included in any endeavours to comprehend the implications of the developmental path for the vulnerability profile of the society.

Change in land use might have also exacerbated the local vulnerability of coastal zones to sea-level rising (long term) and periodic typhoons (short-term). These include the massive extension of coastal industrial zones (e.g. steel industry, shipbuilding industry), land reclamation projects, and the leisure/tourism industry in the coastal region. Companies, including those managed by Chaebols, are located either within or close to coastal industrial complexes that were constructed by the government since the 1960~70s. There are now 815 industrial complexes ranging across Korea where about 55,000 companies currently operate. In this regard, the altered physical exposure to environmental hazards is evidently a by-product of promoting economic growth and technological innovation through industrialization. These are a crucial, if not sufficient, factors in understanding the vulnerability of Korean society to potential threats from climate change risks, yet they are seldom addressed by the current development literature.

2.5.2. Disaster risk in Korean society

This section examines natural and technological hazards that recently struck Korean society. Periodic typhoons are amongst hydro-meteorological hazards that amount to 90% of natural hazards in Korean society. They trigger floods, landslides, and extreme rainfalls. More than twenty typhoons influence Korea annually during the summer monsoon season and some of them strike heavily and cause a lot of damage in Korea. The typhoons Rusa in 2002 and Maemi in 2003 are two exmples (see Table 2.5). There should be an important reason why similar typhoons brought about somewhat different death tolls to Korea and Japan (Seong, 2006: 178 and see the below table). More significant is the fact that early warning was provided in advance, yet citizens did not pay enough attention to potential risk of natural disasters (ibid.).

Table 2.4. Comparisons of Typhoons in Korea and Japan

Typhoon and influenced regions		The centre of atmospheric pressure	The central maximum wind velocity	Scale and intensity
Typhoon Rusa in 2002	Korea	965~992hPa	18~331 m/s	Scale: medium Intensity: strong
	No. of the killed and the missing		246	
Typhoon Higos in 2002	Japan	950~980 hPa	26~411 m/s	Scale: medium Intensity: strong
	No. of the killed and the missing		4 (the injured: 56)	
Super Typhoon Maemi in 2003	Korea	910~996 hPa	18~541 m/s	large very strong
	No. of the killed and the missing		130	
	Japan	n/a	<74.1 m/s	large very strong
	No. of the killed and the missing		1	

Source: Korea Water Resources Corporation, cited in Seong (2006: 178)

Given the major reasons for the death from the typhoon Rusa in Korea, torrents (96) and landslides (55), the *anthropogenic* rivers management and road construction are thought of as a direct causes of the disasters (ibid: 179). Based on a public opinion survey of the riskiness of natural hazards, it is argued that the incident of Typhoon Rusa is attributed to the lack of a safety culture in Korea. Seong (2006) does not directly examine the underlying causes of vulnerability. However, the insensitivity to safety is to some extent an outcome of the dominant discourse and ideology in Korea that development is all about economic growth. In this sense, limping modern development and accompanying institutions and social structural factors are the underlying source of risks facing Korean society (Kim, 1998).

Related to the above point, rapid economic development from the excessive extension of industrialization has greatly given birth to the technical disasters. For example, the collapse of the Sampoong department store in 1995 killed 502 and injured 938, while the fall of Sungsu Bridge in 1994 killed 32 and the injured 17. The Sungsu Bridge was a symbol of the successful industrial development of Korea; the Sampoong department store was the second largest, luxury department store in the capital city of Seoul. The two incidents can be explained by Beck's risk society thesis in that buildings to which modern technology were applied with the faulty permit for building completion became the source of technical risks.

The MT Hebei Spirit oil spill in 2007 is a recent example of technical incidents in Korea. It led to about 10,000 tonnes of oil being spilled around the county *Taean* on the Yellow sea (the west) coast of the Korean peninsula. The direct and indirect consequences of the incident were the ecocide of the tidelands; the suicide of the residents – four people have thus far committed suicide due to compensation or livelihood issues (imagine who might want to consume marine products that are polluted by the oil); and the deteriorating health problems of the local people. Despite the volunteering work to degrease the oil on the tidelands (undertaken by more than one million people) and a private donation, the local people have not fully recovered their means of livelihood, and some of them have chosen to commit suicide. The impacts of this technical hazard on the coastal area will be more lasting than one might imagine. Above all, the tragic incident showed how humanly induced technological hazards can in turn ruin the entire local economy, the ecological system and people's lives. More problematic still is the fact that since the oil spill, 23 more incidents involving about 50000kℓ of oil spills have recurred in the same region so far.

Figure 2.2. The collapse of Sampung department store and the MT Hebei Spirit oil spill

Source: http://www.sciencetimes.co.kr/article.do?todo=view&atidx=0000070958

The above cases of natural and technical hazards represent just very small sample of the hazards that have recently confronted contemporary Korean society. Yet, it is possible to draw some important points from these cases to reflect on the links between modern development and hazards in the context of Korea. It is not difficult to discern that poverty or inequality is not a sole independent variable that generates human vulnerability to natural hazards or environmental crises in Korea. Rather apparent is that successful economic growth (eradication of poverty) has not necessarily provided

Korean society with greater preparedness nor advanced adaptive capacity for coping with natural and technical hazards. Crucially, this implies that the overall capacity of Korean society to deal with the forthcoming risks of climate change must be treated with some scepticism.

Korea is not ranked amongst the most disaster-prone countries in the world. However, this does not mean that Korea is safe from natural hazards. Table 2.5 and Figure 2.2~2.5 prove this point clearly. In particular, the fact that the ten most expensive natural disasters occurred very recently demonstrates that the wealth and infrastructure accumulated during Korea's rapid economic growth could be easily lost as a result of natural hazards (at least at local level). Yet, it seems apparent that nature is not the only source of natural disaster, as fully discussed above. What has changed the nature of disaster risk in Korean society is to a large degree the process of modern development and industrialization. As Quarantelli (cited in Oliver-Smith, 2004: 20) rightly put it, not only the increase in the population but also its "location in dangerous areas" makes people more susceptible to natural hazards.

Table 2.5. Metrological hazards in Korea

Year	Causes of disaster	Max. daily rainfall (mm)	Major loss area	Sufferers (No. of)	Death toll (No. of)	Economic losses (price level of 2002, $, approx)	Ranking by economic losses
2002	T (RUSA), 30/08-01/09	Gangneung 870.5, Donghae: 319.5, Sokcho: 295.5, Daegwallyeong: 712.5	Across the country	63085	246	4.29 billion	1
1998	LTD, 31/07-18/008	Ganghwa: 481.0, Boeun: 407.5 Yangpyeong: 346.0	Across the country (excluding Jeju)	24,351	324	1.08 billion	2
1999	T (OLGA)/LTD, 23/07-04/08	Cheorwon: 280.3, Chuncheon: 237.2	Across the country	25,327	67	0.92 billion	3
2002	TD, 04/08-11/08	Yangpyeong: 320.0	Across the country	8,107	23	0.77 billion	4
1990	LTD, 09/09-12/09	Daegwallyeong: 330.8, Gangneung: 297.5, Suwon: 247.5, Wonju: 250.5, Seoul: 247.5	Seoul, Gyeonggi-do, Gangwon-do, Chungcheongbuk-do	187, 265	163	0.63 billion	5
1987	T (THELMA), 15/07-16/07	Jeju-do: 163.6, Wando: 139.1, Goheung: 216.8, Gangneung: 173.5, Busan: 135.7	Southern and eastern coast	99,516	345	0.51 billion	6

1995	LTD (JANIS), 19/08-30/08	Yangpyeong: 199.5, Boryeong: 361.5, Taebaek: 140.0	Gyeonggi-do, Gangwon-do, Chungcheongbuk-do, Chungcheongnam-do	24,146	65	0.47 billion	7
1987	LTD, 21/07-23/07	Daejoen: 303.3, Jeju-do: 224.7, Buyeo: 517.6, I-ri: 238.5	Central districts	50, 472	167	0.43 billion	8
1996	LTD 26/07-28/07	Cheorwon: 268.0, Seoul: 168.6, Chuncheon: 141.5	Gyeonggi-do, Jeolla-do, Gyeongsang-do	16,933	29	0.43 billion	9
1989	TD, 25/07-27/07	n/a	Chungcheong-do, Jeolla-do, Gyeongsang-do	54,041	128	0.37 billion	10

Source: National Emergency Management Agency (NEMA), Available at http://www.nema.go.kr
Notes: Typhoon (T), localized torrential downpour (LTD), torrential downpour (TD), economic losses calculated at the exchange rate of 1,200 Korean won (₩) to the U.S dollar ($). This table does not fully include recent Typhoons and other accompanying hydrological hazards (e.g. MAEMI in 2003 which killed 130 people and led to economic losses equivalent to 3.51 billion U.S dollar).

Both typhoons and oil spill incidents frequently occur around coastal zones. It is plausible to envisage that the local/coastal dwellers in Korea will be under the threat of complicatedly coupled stresses, whatever future scenarios of social-environmental change are taken into consideration. The coupled stresses mean that the underlying causes of natural/technical disaster and climate change risk are complexly interwoven over time and place; globalization, short and long term hazards, urbanization, industrial complexes, institutional configuration, trust, communication and so forth (for a more detailed account see the section on the definition of social vulnerability).

However, it is wrong to argue that the modern development of Korea has resulted in merely negative outcomes. Improved access to economic assents (despite the decreasing income distribution since the 1997 IMF financial crisis) and political freedom since the 1987 democratization are important factors that shape the adaptive capacity of the society for coping with both natural hazards and climate change risks (Wisner et al, 2004). For instance, UNDP's Human Development Index (HDI) shows that the rapid economic development of Korea has encouraged and been encouraged by improvements in education, health, knowledge and the standard of living (0.937, ranked among the very high human development group).[13] Of course, the HDI tells us only a few aspects of development. For example, it does not encompass political participation, gender equity or social cohesion. Nevertheless, few would deny that

[13] See http://hdrstats.undp.org/en/countries/country_fact_sheets/cty_fs_KOR.html

access to basic assets such as food, education and income is essential for coping with natural disaster and climate change risks.

2.5.3.Heat waves: natural hazard?

A heat wave is a slippery concept; several quantitative approaches to defining a heat wave relying on the indicators and criteria used:

> Intensity, frequency and duration – e.g. "the means of three consecutive warmest nights" (Meehl and Tebaldi, 2004: 994);
>
> Establishing certain thresholds of maximum temperatures (Robinson, 2001);
>
> When temperatures exceed fixed absolute threshold values
> Deviation from normal – percentile thresholds (Meehl and Tebaldi, 2004)

Regardless of the indicators and criteria used, what is important is that human resilience against a heat wave is also largely affected by societal, economic, demographic and political factors. For instance, the SREX report broadly defines a heat wave as a period of unusually hot weather (Robinson, 2001). Perhaps, the fixed absolute values are less directly applicable to different geographies, economies, and societies that have diverse thresholds of extremely hot weather. In this regard, any definition of a heat wave based on statistical values (e.g. trends) should be coupled with local contexts and the history of the society in question.

Notably, the Korean heat wave of 1994 resulted in an estimated 3350 fatalities (IPCC, 2012). The death toll of the heat wave is tantamount to that of all the natural disasters from 1987 to 2011 combined, which killed some 3491 people. (Note that a heat wave has not counted as a natural disaster, see below). The heat wave was exceptional, fully meeting the criterion used for the definition in the study; more than a three-day long period of hot weather either reaching or exceeding 33°C (see Table 2.6). There were twenty heat waves from 1992 to 2005 that fall under this definition.

Table 2.6. The 1994 heat wavers of Korea: mortality impacts and meteorological features

Dates	Length (day)	Max. daily temperature at 15:00 h LT (°C)	Max. average daily temperature (°C)	Max. daily heat index at 15:00 h LT (°C)	Max. average daily heat	Mortality			
						Total		CVD	
						%	n	%	n
08/07 09/08 /1994	33	35.4	30.4	40.9	36.7	15.1	3027	26.8	1380
11-17/08 /1994	7	33.7	29.8	39.2	35.5	7.6	323	15.1	161

Source: modified from (Kysely and Kim, 2009: 112).
Note: CVD = Cardiovascular diseases.

Nevertheless, Korea has yet to establish advanced institutional tools to cope with heat-related disasters. For example, the current disaster laws of Korea (e.g. the Disaster and Safety Management Basic Act, the Natural Disaster Countermeasures Act) are inadequate for coping with heat waves. In the first place, the existing laws do not treat a heat wave as a cause of either natural or man-made disaster. Without forward-looking institutional preparation, however, the institutional defenselessness of Korea against heat-related hazards will no doubt lead to much higher mortality and malfunctions of socio ecological systems.

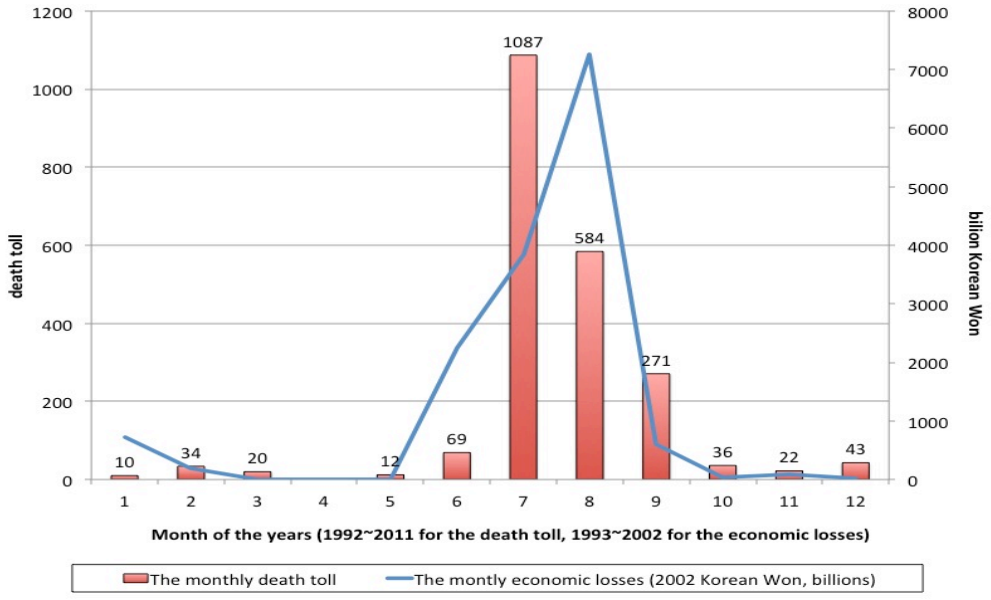
An additional concern about heat waves is to come up with a resolution to the predicament caused by the coexistence and clash of contrasting values. For example, the increasing demand for electricity (particularly in summer, see http://www.kpx.or.kr), the anti-nuclear movement, corruption in the Korean nuclear reactor-parts industry (Kim, 2013) and other needs for change make the issue of heat waves in the era of climate change more complicated. This is why research into disaster at a single scale requires the consideration of other possibly related forces, discourses, conflicts and functions at other scales. Various ecological, physical and social "thresholds" coexist and can be breached to lead systems to new stages (Pelling, 2011). In this sense, not only the direct impacts of heat waves, but also their indirect impacts and interlocked changes need be considered, for example, heat waves with sporadic change in other systems – demography, social values and the nuclear industry.

2.5.4. Trends of natural disaster outcomes in Korean society

Despite the inherent limitations of using statistical indicators, the number of victims and the proportion of the population affected are commonly used to define natural

disasters (Pelling, 2003c: 6). Issues of data quality and the possibility of failing to consider "the cumulative impacts of small impact events" are among reasons that quantitative indicators of natural disasters are partial at best. In addition, the numerical figures do not speak of the underlying, structural causes of natural disasters (Mustafa, 1998). Nevertheless, it is useful to project the macro trends of disaster triggered by natural hazards to make inferences about the changing risk profile of Korean society.

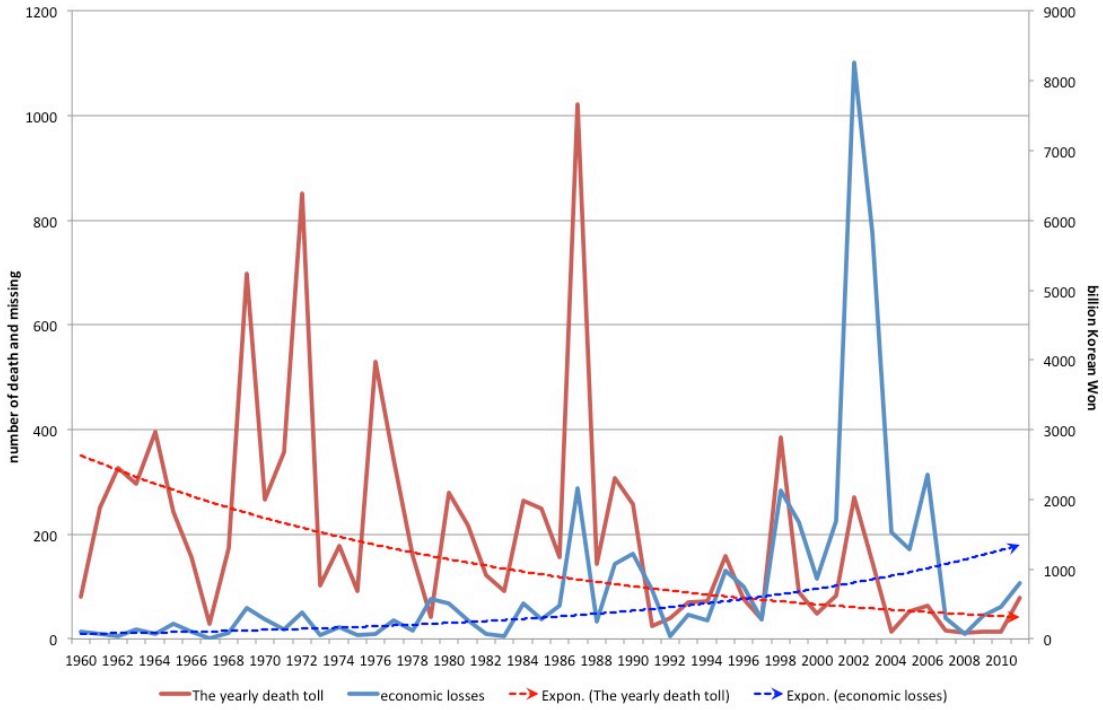
Figure 2.3. The concentration of losses and damages in the summer



Source: Based on statistical data from NEMA (2011).

Figure 2.3 exhibits both the death toll and economic losses of natural disasters in Korea, and shows that they are concentrated in summer between July and September. Had heat waves or other events counted as a natural disaster, the concentration of the disaster death toll in the summer would have been far greater. This also means that the redefinition of natural disasters, the use of different indicators for natural disasters, and the inclusion of "cumulative impacts of small impact events" in the data could easily reshape the gradient of the chart in Figure 2.3.

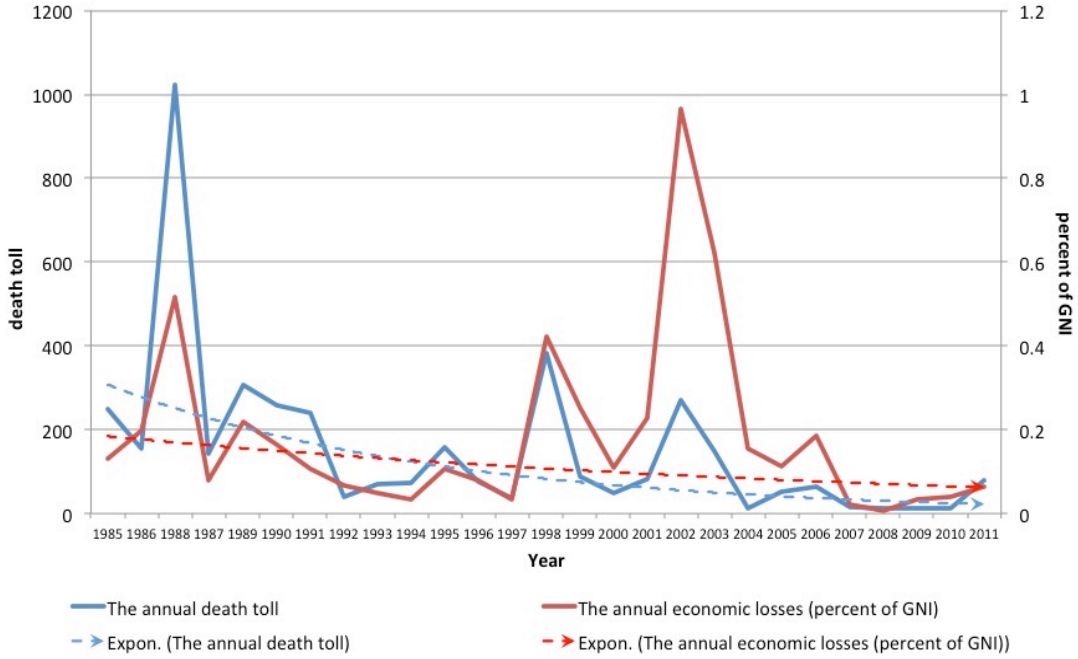
Figure 2.4. The changing ratio of death toll to economic losses (total costs)



Source: Based on statistical data from NEMA (2011).

Figure 2.4 and Figure 2.5 illustrate the ratios of human losses to economic damages, in terms of the total costs and percent of GNI. The trends of natural disaster outcomes in Korea are upward for economic losses and reconstruction costs, and downward for human casualties. It is not immediately possible to discern what has actually altered these trends, whether the direction of the trends will continue into the future, whose losses the data account for, and the way in which climate change will affect the trends. Many other questions are worth asking; but the key point is that the meaning of the charts in Figure 2.3~2.5 can vary depending on the context and purpose.

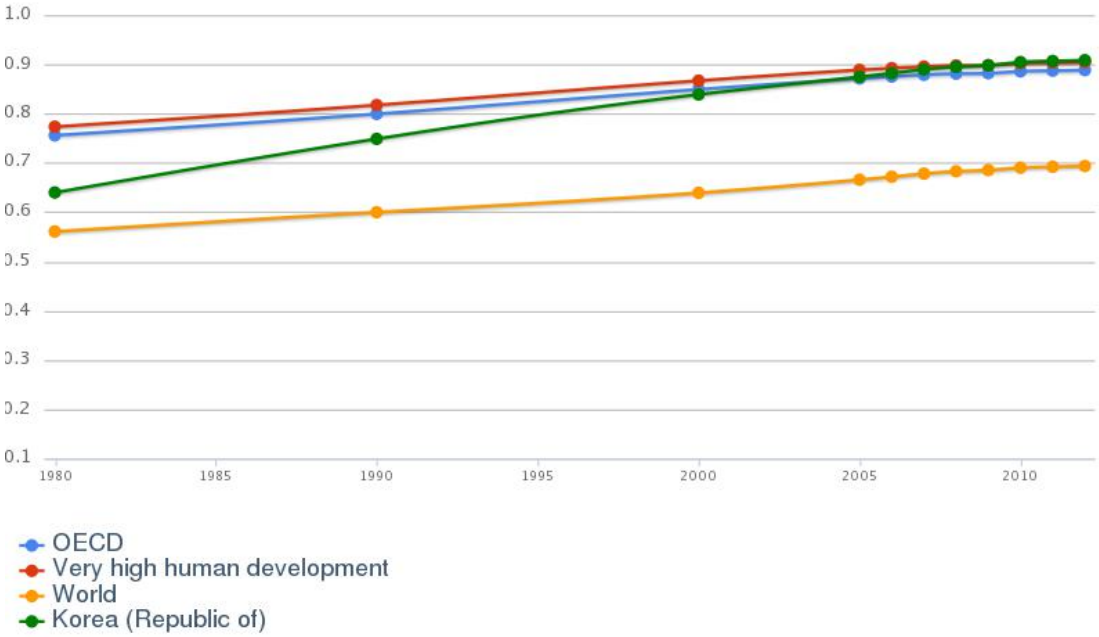
Figure 2.5. The changing ratio of the death toll to economic losses (percent of GNI)



Source: Based on statistical data from NEMA (2011).
Notes: Available data cover only the last 30 years to show the ratio of death toll to economic losses in terms of percent of GNI.

It is possible to make several inferences from these charts. First, Korean society is likely to experience higher economic than human losses (higher exposure of physical properties to hazards). Second, the compressed development of Korea and its current outcome have not fully transferred to disaster-specific resilience (compare the above charts with Table 2.7, note that the population of Korea is about 50 million). In fact, as the empirical chapters of this thesis will show, the social relations that once fostered the compressed development have in turn delayed the development of local resilience. Third, however, it should be noted that there are many other aspects of disaster that these charts cannot explain (e.g. institutional aspects).

Figure 2.6. Human Development Index: Trend 1980 ~ present



Source: see http://hdrstats.undp.org/en/countries/profiles/KOR.html

International organizations such as the UNDP and IFRC have increasingly embraced hazards resilience as a constitutive element of the concept of (sustainable) development. Among others, the Human Development Index (HDI) report uses such advanced conceptualization of development. Table 2.7 shows that in general all the HDI groups have seen a decrease in the number of losses and damages consequent to natural disasters over the last four decades.

Table 2.7. Disaster-related casualties and costs, median annual values by HDI group, 1971-1990 and 1991-2010

	Deaths (per million people)		Affected population (per million people)		Cost (percent of GNI)	
Country group	1971-1990	1991-2010	1971-1990	1991-2010	1971-1990	1991-2010
			HDI group			
Very high	0.9	0.5	196	145	1.0	0.7
High	2.1	1.1	1,437	1,157	1.3	0.7
Medium	2.7	2.1	11,700	7,813	3.3	2.1
Low	6.9	1.9	12,385	4,102	7.6	2.8
World	2.1	1.3	3,232	1,822	1.7	1.0

Source: Adopted from UNDP (2011: 37).

The Very high HDI group to which Korea belongs generally exhibit relatively low disaster-related casualties, low levels of population affected and low financial costs during two periods, 1971-1990 and 1991-2010. The inter-country comparison in Table 2.7 should not be taken as an absolute picture of their disaster-specific resilience profile. If the comparison is done in light of many other factors, such as change in the institutional arrangements, social capital, power relations, discourses, technology, culture and demography, it will partly illustrate the evolving structure of the countries' risk.

Whilst Seoul and Jeju are prone to nationwide hazards, such as typhoons, at the same time the two areas' distinct environmental features expose them to different hazards in different ways. Environmental features here refer to the wider surroundings of human settlements and include geological, socioeconomic, political, discursive and cultural settings. This point makes it clear that the above charts in Figure 2.3 ~ 2.5 do not facilitate an understanding of why the same hazard leads to different experiences of disasters, and this will be dealt with in Chapters six and seven.

2.6: Conclusion

By introducing concepts and ideas from a wide range of studies in sociology, political economy, political ecology and research of disaster, this chapter clarified the meanings of the key terms and theories. In particular, the dual-risk thesis and the concept of compressed modernization are extremely important for this thesis. It was shown that Korean society has recently undergone increasing urban risks, and the physical damages of disaster triggered by natural hazards have been increasing. Arguing for a casual relationship between compressed development and dual-risk might be provocative to both environmental determinists and disciples of development orthodoxies. While the former group might overlook the political and historical causes of contemporary risk, the latter group tends to underestimate the role of environmental hazards for human development. Yet, it is clear that after such rapid transformations Korean society has confronted multiple disaster risk of new kinds and extents. It is evident that development has inextricable relationships with hazards risk. In response to these emerging risk challenges, as Chapter three explores, political reflections in various forms have accordingly come into existence in the society.

It is not argued in this chapter that the dual-risk thesis is without problems. The dual-risk thesis is an attempt to adopt and modify Ulrich Beck's Risk Society thesis in order to account for newly emerging "manufactured" risk in Korea. Theorists of the dual-risk thesis in Korea have stopped short of applying it to the case of disasters triggered by natural forces. Probably this is because there is still a strong belief among Korean academics that sources of manufactured and natural disaster risk can be clearly demarcated. The current research constantly poses a question to this belief. Indeed, the empirical chapters of this thesis ably show that in urban settings such a belief ceases to be necessarily rational.

Chapter 3: Collective change in expectation, institution and idea – a discursive institutionalist approach

3.1: Introduction

Threats of environmental change risk neither always require nor inevitably entail sociopolitical change – be it incremental or transformative. One could even go further to argue that consolidation of the status quo might be more appropriate for dealing with certain types of environmental hazard risk. That said, and too important to be neglected, are the multi-scalar adaptation deficits that have provoked diverse political reflections on dual-risk in Korea. In an attempt to offer an analytical tool by which to examine the new social responses to the emerging risk, this chapter sorts through three cognate, conceptual frames along with one crosscutting concept (social capital): 1) changing social expectation; 2) institutional change; and 3) social innovation.

First, this chapter points out the changing worldview that uncertainty is becoming an essential part of social expectation of future risk. The scope and nature of social expectation is important for encouraging CCA as the former can determine the range of available options for the latter. A realist perspective is introduced to emphasise the necessity of including a wider range of *real* adaptation needs and options in scholarly discussion about CCA. Then, the importance of adaptation scale is discussed with reference to the relevant literature. Adaptation is an essentially local event; and new lines of inquiry should be stimulated in local contexts. Most importantly, a range of options can be (re-) shaped, if not wholly determined, by changing collective expectations.

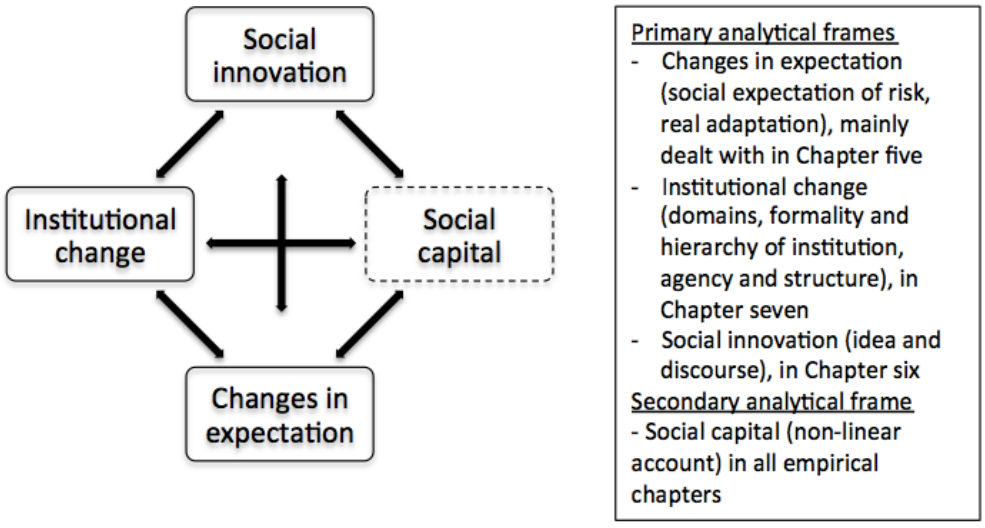
Second, social capital is presented as a crosscutting concept that helps further elaborate the concepts of expectation change, institutional change and social innovation. As many studies anticipate, structural forces (e.g. global risk or globalisation) will continue to necessitate collective changes. The debate on social capital provides a lens to look more closely at how *collective* endeavours emerge to either transform or reinforce existing ideas and institutional arrangements. The multidimensional aspects of social capital also need be accounted for in more detail. To examine CCA of individuals is neglected in this thesis. This section looks at social capital at the global-

level for addressing climate risk in an integrated way, and questions if this is possible at lower geo-political levels.

Third, institutions and institutional change are approached by critically reviewing the existing literature from authors such as Jütting (2003), North (2005), North (1990). Additional efforts are made to gain analytical purchase on different understandings of institutional change. In particular, this section looks at one way in which structure-agency interactions are accounted for (Seo and Creed, 2002). Several contextual questions are dealt with to further elaborate this model of institutional change. These efforts are maximized in the following section of social innovation and idea, thereby setting up the ideational approach to institutional change.

The last section of this chapter conceptualises social innovation by closely looking at the concepts of idea and discourse. This section offers an account of how novel ideas can transfer to social innovation through political-discursive channels. Different types of ideas (cognitive/normative and foreground/background ideas) are presented in terms of the ways in which they are discussed, dealt with, interlinked, interpreted and adopted in two spheres of discourse (public and political sphere). The debate on social innovation recalls the rational choice institutional theorists' equation of idea with interest. Yet, it is argued that an idea is much a broader concept than interest, in terms of discussing causes of an institutional change.

Figure 3.1 Analytical framework



Source: The author

The linkages among these concepts need to be explained; they together constitute the analytical framework of this thesis. The main focus of this research had initially been to develop an institutional model of transformation; yet other primary concepts – expectation and innovation – emerged as a result of further theoretical and empirical research to elaborate the model of institutional change as presented in Figure 3.1 above. Thus the formation of this analytical framework itself can be presented as an analytical process, as the emerging concepts became mutually constitutive. This framework is employed for all of the subsequent empirical chapters.

3.2: Changing social expectation

We live in the so-called "non-ergodic world" where uncertainty makes precise prediction of future threats impossible and equilibrium theory untenable (Nell, 1998, North, 2005: 13). To be more exactly, older underlying assumptions of the world; equilibrium (statics), linear causality, the discontinuousness of change, and the normal distribution of world outcomes, seem either inadequate or insufficient to account for the dynamics and complexity of the real world (Blyth, 2011). In fact, this is the very reason why innovation (or entrepreneurship) was taken as a virtue even under the assumption of an *ideal* world of equilibrium in which society could enjoy stability and accumulative growth.[14]

Clearly, the irony in the above models is that the world was *never* so stable in many dimensions (e.g. financial crises, environmental shocks and epidemics). Continuous behavioural and ideational changes were always, albeit of different nature and degree, required to acquire stability. Perhaps, the stable world that was once *expected* to exist and continue was never something naturally given but constructed by the human mind (North, 2005). Such construction of the world itself might not be wrong. Rather, it is not just given but hoped, planned, expected, obtained and lost in the discursive spheres of politics.

3.2.1. Social expectation of environmental risk

Expectation is a sort of idea, thought or psychological state relating to future phenomena, events, outcomes, and the behaviour of other actors. If the future were wholly predictable, individuals would not have expectations in the first place. This is so because the future would already be pre-determined so that people would be able to know exactly what would happen with absolute confidence (Nell, 1998, Dequech, 1999). Even in this situation, however, it would be hard to precisely know what we or other people should do, if we or they would act in an acceptable manner, and who the winners and losers would be (Nell, 1998: 138).

Uncertainty is inextricably related to expectation and creativity (Dequech, 1999). The inter-linkages amongst the three features are crucial for understanding social innovation that will be dealt with later. This neo-Keynesian idea is one of many

[14] Consider Adam Smith's, Schumpeterian, and Keynesian ideas of market and technological innovation, which are similar despite their different accounts of the driving force (see Nell, 1998: 137).

accounts of expectation and creativity. Among others are rational choices theory-informed (North, 2005), psychological-cognitive (Bandura, 1989, Lazarus, 1991), social movement (Hasegawa et al., 2007), and educational (Ferguson, 2003) illustrations of expectation. Despite their different focuses and levels of analysis, they have contributed to the development of knowledge about how active (agency-driven) and passive (structure-driven) expectations clash with each other, or they are combined to direct a future developmental trajectory of society.

Whilst political economy mainly deals with social expectation of relations between actors (agency) and institutions (structure) with reference to the relationship between past social structures and present social needs, political ecology and cognate disciplines go further and consider social expectation of society-ecology relationships. Concepts, theories and ideas with regard to sustainable development or green growth presuppose the present age's changing social expectations of the relationship between nature and society in an uncertain future. Similarly, CCM and CCA connote a change in social expectations regarding the socio-ecological relationships. In this thesis, various levels of ideas come to the fore in explaining how social institutions, in which collective expectations are inherent, alter in terms of addressing climate change uncertainty (Schmidt, 2010).

Outcome expectation also plays several roles. Expectation from time to time hinders necessary changes. For instance, during the early colonial period of the British settlements in America, their "expectations about weather patterns in North America were based on the common-sense assumption that climate is constant in any latitude around the globe" (Kupperman, 1982: 1262). Nowadays we do not have such assumptions any longer. Yet the point is clearly explained that:

> "Under stress produced by high death rates, the failure of settlements, and pressure from investors disappointed by the colonies' inability to produce the rich commodities associated in their minds with hot climates, colonists eventually had to acknowledge that, although it is as hot in summer as the English anticipated, the eastern mainland of North America is much colder in winter, spring, and fall….yet they clung with persistence to inherited notions about climate that their own experience contradicted…it was the story of a mental adjustment that was both slow and costly in money as well as lives" (ibid.).

It is important to stress that the strong expectation of climate patterns brought about the obstinate non-decision making for social change that eventually precluded a timely adaptive change and required action. This example is full of suggestions in terms of the importance of timing and necessity of changes in expectation for adapting to novel environmental risk.

Indeed change in social expectation can bring about positive results too. It is social cognitive theory that offers a detailed account of how human agency performs to generate *forethought* so that the future outcomes are symbolized into a present decision-making process (Bandura, 1989). Instead of psychological aspects of expectation, however, the thesis looks into social expectation. For example, defining it as "an internalized social norm for individuals and organizations", Hasegawa et al. (2007: 180) argues that, despite the then strong roles of the nation-state, social expectation "led a dramatic growth of associational activities" and played a critical role in the development of civil society in Japan during the 1990s. The reformation of the social expectation of a particular group of elite entrepreneurs and the public were the key. It is also worth noting that disaster-torn nations with low expectations of receiving international aid are compelled to invest in disaster prevention in order to evade political discontent post-disaster (Cohen and Weker, cited in Pelling and Dill, 2009). This argument is controversial, but the point is that expectation in its many different guises has several enabling and restricting roles in CCA, just as institutions might do.

Broadly speaking, CCA can partly be conditioned by the scope and nature of social expectation with which available decisions are made about the relationship between society and the climate. Of course, the role of social expectation for CCA is not necessarily decisive. Instead, it limits the range of available options that can be imagined, experimented and chosen by actors, organizations and societies for CCA.

Perhaps, then, would it be both convenient and sufficient to conclude that the Rational Expectations School is entirely correct in their claim (Nell, 1998) that forming expectation *rationally* would solve the given problems of climate change risk? Indeed, the lack of valuable options by which to make "rational" decisions often seems to characterise many developmental or risk-based challenges facing developing countries.

3.2.2. Real versus right CCA: beyond rational expectation

In line with the above debates, it is worth questioning *why* we adapt to environmental changes in the first place. This question is deceptively easy to answer (survival or continuing utility functions or prosperity, for example); or less often asked in relation to CCA (yet for some exceptations, see Muhovic-Dorsner, 2005, Paavola, 2002, Paavola and Adger, 2006, Thomas and Twyman, 2005). In discussing the *why* question, first, we should question what would happen when the question is overlooked.

There are some cases showing the importance of questioning the normative question. Warner (2010) notes that some victims of water-related disasters in Vietnam are suspected to use human trafficking as means to cope with environmental stresses. As another instance, hundreds of thousands North Korean have crossed the border to China since the mid-1990 famines following floods and droughts, despite the expectable risk of being repatriated to North Korea (that could lead to years of imprisonment in labor camps, torture, and other violation of human rights) and human trafficked or raped (particularly for women) (Noland, 2009). The recent geopolitics of climate change adds weight to the likelihood that the invasion of oil and water-rich countries could be used as a means to cope with the intensification of energy and resources security issues (Giddens, 2009). There is no intention here of abusing the term adaptation (for the abuse of adaptation by oil-rich countries, see Schipper, 2009). Nor does this intend to ignore that there could be other acceptable options than the above extreme coping mechanisms. The clear point here is to highlight the likelihood that environmental stresses combined with other shocks and challenges might reinforce the already abject circumstances in which stressed groups are forced to choose seemingly *irrational* options.

Can international organisations such as the UNFCCC change the above situations? The Convention does not have authority to intervene in the domestic affairs of developing countries. Probably the GCF will continue to support CCA projects and programmes in developing countries in the future. For example, there have been good cases of combating local vulnerabilities to climate-related risks under the Nairobi work programmes.[15] The GCF will continue to do so whilst the majority of vulnerable

[15] See http://unfccc.int/cooperation_support/least_developed_countries_portal/best_practices_platform/items/6491.php

groups uncovered by the UNFCCC aids might end up making decisions between sub-optimal/low quality options. In many parts of the world, a huge number of children at the age of ten or so have to turn towards local markets or manufacturing factories instead of attending schools, because their younger siblings or sick parents would otherwise starve to death. This reality is both morally bad and not cost-effective in terms of building adaptive capacity. The development of the adolescent brain has non-trivial implications for "executive function" and "social cognition" (Blakemore and Choudhury, 2006: 296) that are both extremely important for encouraging CCA of individuals (Grothmann and Patt, 2005). Moreover, it has been disclosed that there are currently more than 27 million people enslaved around the world, who are even cheaper and more easily *disposable* than those taken from Africa in the era of the transatlantic slave trade (Bales, 2004: 9). Slavery is not legal anywhere in the world, yet is forcedly chosen by vulnerable groups who have no other *decent* options, and do not know beforehand about what their choice would cost. They often end up exploited in the sex industry, coalmines or the fishing industry. Probably many vulnerable groups will be forced to make such *irrational* decisions.

From a different angle, it is worth noting how now developed countries have obtained their current capabilities and adaptive capacities by expedients previously considered *rational* but which are now regarded as absolutely *irrational*. Certainly, almost every developed country (except for some lucky resource-rich countries) has pursued Industrial, Trade and Technology (ITT) policies, particularly for the development of manufacturing industry (Chang, 2002b). It is estimated that manufacturing and construction industries of the globe account for as much as 21 percent of global GHGs emissions (Baumert et al., 2005). Meanwhile, these countries could then adopt rational institutions that are now taken for granted; such as antislavery, child labor regulations, universal suffrage, and social welfare institutions (insurance and pension) – not to mention GHG regulations – only after they had already become relatively *rich* (ibid.). The notion of historical responsibility has centered solely upon debates about CCM. Less attention has been placed upon the historical fact that the adaptive capacity of now developed countries, if not all, is not a direct result of taking only *rational* courses of action; but also of colonial exploitation, the slave trade, the use of child labor in poor countries, non-democratic political systems, and, importantly, massive GHG emissions.

At this point, it is curious to note that instead of being told that developing countries need to develop manufacturing industrial capabilities (as my discussion above suggests), we are more often informed to believe that:

> "Even in the most deprived conditions, poor people are not normally without resources – they have assets and capabilities that can help develop resilience. Adaptation policies should as far as possible focus on strengthening *that* resilience. For instance, traditional systems of adapting to climate variability include switching crops" (Giddens, 2009: 179, emphasis added).

Switching crops or strengthening already existing means of livelihoods is important, but obviously insufficient. Indeed, stopping short of admitting the historical fact of the ways in which rich countries actually acquired the capacities they now have, is tantamount to allowing rich countries to kick away the ladder that they used when they were developing (Chang, 2002b). It is not claimed that every country should nurture manufacturing companies such as Apple, Samsung and BMW. In fact, many developing countries are already investing aggressively in manufacturing industries. What needs to be emphasised here is that numerical diversity and incremental changes are not enough for building adaptive capacity against environmental risks. It should go hand in hand with qualitative improvements and transformative changes without limiting the scope of social expectation of the future. It should be acknowledged that in the case of developing countries, the balance between incremental and transformative change is harder to strike than already adaptable societies.

Given the above points, it is unavoidable that local policymakers and laypersons will have to bear much of the responsibility for addressing diverse issues beyond the reach of the UNFCCC. This drops a hint about how to deal with the aforementioned question of *why* we adapt to environmental changes and why we should be concerned about our social expectation. Suffice it to say that local CCA or DRR inescapably involves consideration of *local* institutional arrangements for effectiveness, efficiency and legitimacy (Adger et al., 2005) by which to find *local* answers to the *locally* and historically elicited question.

This thesis argues that the aforementioned extreme coping mechanisms in Vietnam and North Korea are also *real* adaptations happening to deal with environmental shocks and stresses. This certainly has strong implications for policymakers in relation to planning and implementing of CCA policies; of course we do not deny that they are morally unacceptable. This argument is neither useless nor misleading because *real* and *rightful* options for CCA and DRR apparently differ but complexly coexist in reality: e.g. there certainly exists real, yet normatively wrong CCA (Sayer, 2010). Likewise, adapting "to poverty and deprivation by suppressing their wants, hopes and aspirations" is seemingly real, if not always desirable (Clark, 2009: 3). This point is clarified later in more detail when discussing ideas.

3.2.3. Channeling "critical consciousness" to collective innovation

A psychological account of adaptation to environmental changes helps clarify the above points. The foremost psychologist, Lazarus (1991: 611), makes the important point that:

> "Although serving similar general functions (i.e., promoting survival), the three adaptational subsystems are, in principle, distinguishable in an evolutionary sense. It is a reasonable inference that emotions evolved from simpler and more rigid adaptational systems such as reflexes and physiological drives…Undoubtedly, the most important evolutionary change was the movement away from specific built-in responses elicited by specific environmental stimuli toward increasing variability and complexity that decoupled the behavioral response from the environmental input."

This line of argument should be familiar to scholars of different fields such as political ecologists, sociologists, and disaster researchers. In fact, such cognate terms as reflexive shift in consciousness (Seo and Creed, 2002), the back loop of the adaptive cycle (Biggs, 2010), social learning (Reed, 2010), third-loop learning (Argyris and Schön, cited in Pelling, 2011), punctuated innovation (Allen and Holling, 2010), and background discursive abilities (Schmidt, 2008) are all employed to shed a light on the above *decoupling* process and their driving forces at different levels and in different domains. The decoupling process also differentiates "reflexivity (knee-jerk reactions)" and "reflection (though-through responses)" in terms of how to tackle ecological crises (Beck, 1992, in Pelling, 2003b: 12).

The reason why the decoupling process is crucial for CCA is intimately linked with the assumption that informed creativity is an important element of expectation (Dequech, 1999). Accordingly, this thesis delves into the ways in which the sources and energy of individual innovation are *collectively* channeled into risk governance. As critical consciousness is also an essential component of proactive and preventive CCA (Pelling, 2011), a social decoupling process is more pivotal than is normally reckoned.

It is not surprising to see that developing countries are full of individual entrepreneurship and innovative ideas (Chang, 2010a). Arguably, people from poor countries have more entrepreneurship than their counterparts in rich countries (see Thing 15, ibid.). It is argued that for the former entrepreneurship is not an option but an essential characteristic for survival. While resilient buildings, insurance markets and well-developed infrastructures might protect the citizens of rich countries *relatively* well, those in poor countries must always think and act innovatively, if non-canonically, to fill their own adaptation needs and priorities. What greatly matters to society in dire need of CCA as a societal change, as Ha-joon Chang (ibid.) strongly argues, might be a conduit through which the energy of individual entrepreneurship can be channeled into collective entrepreneurship. This extremely important point leads to more questions about the role of social capital for CCA as politics of disaster.

3.3: Social capital: from fragmented to cooperative adaptation

As noted in the last section (also see Figure 2.1), critical thinking in the absence of social capital cannot be geared towards reshaping the developmental direction of the society. It is important to question how it might be channelled into a broader social and material change. The recent global cooperation among differing epistemic communities (e.g. the UNFCCC and the ISDR) pinpoints the critical role of social capital for encouraging cooperative CCA. This type of cooperation should also travel down to local scales. Of course, it is not argued in this thesis that the global movement is without problem. Instead, such a complex issue as climate change risk requires considering various changes of different scales.

Adaptation has existed for a long time, since human history began (Yamin et al., 2005). Adaptation refers to different things to different people, yet generally means adjustments in social, political, economic and environmental systems to respond to changes and perturbations. This section sees one of critical, yet less considered ways

of understanding and categorising CCA: social capital. A more detailed account of social capital follows.

3.3.1. Categorisation of adaptation

There are several suggested criteria by which to categorise CCA and their characteristics and components (see Table 3.1). An valuable attempt (to which the current research pays greater attention) to categorise adaptation lies in between the reinforcement of extant organizational and system stability and institutional modification to facilitate resilience through flexibility (Pelling and High, 2005). Thus, adaptation is very much subject to mediating between the stability of system and organisations and functional flexibility within formal and informal institutions in order that both existing/short-term and uncertain/long-term risks of climate change are simultaneously dealt with (Duit and Galaz, 2008).

Table 3.1. Bases for differentiating adaptation activities

Attributes	**Examples of terms**
System type	Natural-human, public-private
Purposefulness	Autonomous-planned, passive-active
Timing	Anticipatory-responsive, proactive-reactive
Temporal scope	Short term-long term, tactical-strategic
Spatial scope	Localised-widespread
Function/effects	Retreat-accommodate-project, prevent-tolerate-spread-change-restore
Form	Structural-legal-institutional, regulatory-financial-technological
Performance	Cost-effectiveness-efficiency, implementability-equity

Source: Adopted from Smit and Pilifosova (2003: 19)

That said however, it is the local and community level at which individual and social adaptation are actually materialised and manifested; adaptive capacity is also location, group and time-specific (Smit and Pilifosova, 2003). Of course, this does not mean that the nature of local adaptation and adaptive capacity is irrelevant to the national and international level of governance and development pathway. Yet, it is crucial to consider that "adaptation, as a social process, is embedded in the formal and informal social context that local actors occupy" (High et al., 2005: 1). Thus, scrutiny of the developmental path and changes in institutional structures at the national level, although important, offers only partial accounts of adaptive capacity unless it is reflected in the local settings of social institutions (Yamin et al., 2005: 3). In this

regard, the "communities of place" approach contributes to this area by looking into how structural changes of power and property rights impact on the way local institutional assets oscillate to deal with environmental disaster risk (Pelling and High, 2005, Adger, 2000a, Pelling, 2003c).

Social learning is closely related to maintaining functional flexibility of institutions for coping with novel challenges stemming from climate change; this is the area to which communities of practice can make much contribution (Pelling and High, 2005). Social capital encompasses trust, claims for reciprocity, social and public norms, networks, sharing of knowledge and information, and sharing of financial risk (Adger et al., 2003, Adger, 2003). Surely, the presence of social capital does not necessarily bring about better CCA (e.g. rent-seeking collective action, tacit corruption within informal networks, and collective exclusion of the marginalised from the decision-making process). This point cements the idea of a mechanism where tactics and strategies of adaptation operate are made up of more than visible formal structures of institutions such as ministries and the national emergency management agency (Pelling and High, 2005).

It is clear at this stage that CCA is a complex social process that occurs within social relations. In order to further clarify this point, the following section regards the recent global endeavor to cooperatively address the issue of climate change risk as evidence of the importance of social capital, as depicted in Figure 3.2.

3.3.2. The integrated perspective to climate change risk: from global to local?

Holling et al. (2002, cited in Matthews and Sydneysmith, 2010: 223) argues that modern knowledge of environment "must be capable of organising our understanding of economic, ecological, and institutional systems. And it must explain situations where all three types of systems interact." This perspective has been found within the area of the risk of climate change and environmental hazards too. The serious attempt to tackle challenges of climate change and disaster risk had its earliest beginning shortly after the 1989 removal of the *Iron Curtain*: e.g. the establishment of the UNFCCC, the IPCC, and the IDNDR (the forerunner of the UN/ISDR) in the early 1990s. That period of time also saw the rise of new discourses of governance and sustainable development that have "shared characteristics and overlapping potential" (e.g. emphasis on the need of public participation) (Kemp et al., 2005: 13).

First, the UNFCCC has been an official forum for debates upon the issue of climate change; the national parties in varied groupings and observers from IGOs and NGOs partake in it.[16] This climate change regime makes political decisions, relying upon the assessment of *physical-material* impacts of the changing climate from a series of IPCC assessment reports. The latter emphasises the need of *purposeful* policy intervention to reduce the impacts through mitigation and adaptation projects: e.g. Carbon markets, Joint Implementation (JI), carbon taxation and Clean Development Mechanism (CDM) projects under the Kyoto protocol. Vulnerability here is seen as the residual impacts after the expected impacts from the climate change are reduced in advance by mitigation and adaptation projects. Accordingly, the concept of vulnerability is primarily future-oriented (Romieu et al., 2010).

Meanwhile, the UNISDR sees social vulnerability as differentiating the way in which climate change and natural disaster risk jeopardise, and are confronted by individuals and society with differential adaptive capacity. The initial focus of this hazard disaster community (still dominated by natural science studies) had been upon physical impacts of natural hazards (Mustafa, 2009). Yet burgeoning literature on social vulnerability (based on constructionism[17] or critical realism) has extended the focus to embrace understanding of the deep-rooted, structural causes of vulnerability (Mustafa, 1998, O'Brien and Nygaard, 2004, Pelling, 1997). Grasping the root causes of vulnerability helps comprehend to what extent policy intentions can expect to provide risk society with resilience and security when the causes are historical and socially-embedded (Pelling, 2003c: 168).

The integration of two communities in the course of promoting CCA has been upheld by the academic literature (Romieu et al., 2010, Pelling, 2003a, Schipper and Pelling, 2006). Notwithstanding, there are barriers to the integration between two communities (O'Brien et al., 2006). On one hand, institutional conflict is argued to stem from the discrepancy of used terms, assessment methods, objectives and political relevance. This also proved to be the case in politics of climate change in Korea (see chapter five).

[16] See http://unfccc.int/parties_and_observers/parties/negotiating_groups/items/2714.php

[17] According to Blaikie (2007: 22), "constructionism has two branches: constructivism and social constructionism. The former, also known as radical constructivism, refers to the meaning-giving activity of the individual mind, to cognitive processes, while the latter refers to intersubjectively shared knowledge, meaning giving that is social rather than individual." The thesis adopts the latter since its analytical focus is upon the social vulnerability and adaptive strategies in the coastal community.

On the other hand, there exist different spatiotemporal scales of the impacts of, and required reactions for addressing, risk each community deals with (e.g. natural disaster risk – abrupt/local and climate change risk – long run/global) (Schipper and Pelling, 2006).

That said, Romieu et al. (2010) takes a step further to hold up the necessity and benefit from the integration by looking at the concept of coastal vulnerability. There are also fruits of the integration and partnerships at the global and regional levels, for instance, the Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) of 2012.

Worth questioning at this point is how far such global trends of integration have stimulated the integration at the national level and below in a way that fosters cooperative CCA. Birkmann et al (2009, cited in Romieu et al., 2010: 167) also notes the necessity of "the implementation of cross-sector, multi-scale and integrative approaches to merge both perspectives and to mainstream both into sustainable development in rural as well as urban areas." Pointing out the significance of "community-led adaptation", Yamin et al. (2005) calls for the integration of different institutional frameworks as in climate change, sustainable development and disaster risk reduction (Parry, 2009). These claims attest to increasing interests in the need for integrating different experiences, knowledge frames and institutions that a global challenge such as climate change has brought about.

At this point, it is worth taking into account components of implementing integrated governance for sustainability (Kemp et al., 2005). The suggested elements are:

A. Policy *integration*: the key is to striking a balance between the specialisation of and integration between different communities and policies at both horizontal (e.g. across policy sectors such as between ministries) and vertical" scales (e.g. within the governmental sector) (Kemp et al., 2005: 19).

B. *Shared* long-term objectives, criteria for deciding a priority of tasks, rules for trade-off and indicators for sustainability: sustainability is referred to as "a socially instituted process of adaptive change in which innovation is a necessary element." (ibid: 20).

C. *Information* and *incentives*: Information is important for participatory governance that supports normal people including the marginalized to partake in the decision-making process (ibid: 22).

D. Innovation of system: technological innovation is important, but insufficient. It should be essentially accompanied by "co-evolving societal processes characterised by continuous changes in formal and informal institutions" (ibid: 22, also see Hargrave and Van de Ven, 2006).

Although not exhaustive (e.g. no account of institutional changes), these components cement some important points.

First, the concept of governance is critical for going about CCA at all levels of government and geography. Governance is argued to refer to a political process of "the formal and informal rules that regulate the public realm, the arena in which state as well as economic and societal actors interact to make decisions" (Hyden and Court, 2002: 13). For example, structural inequality of social and political participation in the governance process needs to be considered for addressing vulnerability (Adger, 2006). In turn, a failure of recognising the vast diversity of plural knowledge of vulnerability might obstruct better performance of governance (ibid.). To include the vulnerable into the process of decision-making of adaptive governance is necessary, if not simple.

Second, the concept of sustainability and governance are closely related in that both share common objectives such as social innovations and public participation (Kemp et al., 2005). However, the question of who should participate in what kind of social innovations largely depends on the developmental pathway society has undergone. Hence, reflecting on the nature of institutional changes in light of a developmental path is critical. Pelling (2003c) conducts case studies from cities of three countries (Bridgetown, Georgetown in Guyana, and Santo Domingo in the Dominican Republic). The three cities with different trajectories of development and structures of power

undertook different institutional modifications for coping with disaster risk – although similar institutional impediments are equally found in three cities; e.g. a lack of "civil society-directed or communal efforts to reduce vulnerability" (ibid: 174). The nature of societal change for CCA partly, yet significantly depends upon who can participate in the course of societal change.

Third, it is not only formal and informal institutions but also the complex relationship between the two and other factors that have a strong bearing on meaningful innovation necessary for CCA. Yet, a matter of the shadow system where informal institutions (e.g. a strong sense of community, trust, and networks) operate has been relatively lightly treated by literature (High et al., 2005). Quite opposite, such shadow systems can largely impact on both hold-up and promotion of social capital. Trust and reciprocity in informal networks and social norms are as important in building up long-term adaptive strategies as formal institutions and organisations (ibid.).

This section has so far pointed out the increasing need for cooperative integration between differing epistemic communities in the context of societal change for CCA. Then, it is necessary to closely examine the complex nature of social capital, thereby getting firmer grasp of how collectivity in varied forms play a conduit for new expectation/ideas to evolve towards CCA as collective innovation.

3.3.3. Social capital

As briefly discussed above, the recent adaptation literature has highlighted the roles social capital plays in the formation and processes of CCA (Adger, 2003, Pelling and High, 2005, Pelling et al., 2008, Wolf et al., 2010). Looking into the changing context of social capital in light of compressed modernity of Korea can be briefly discussed to clarify the role of social capital for CCA. This can possibly contribute much to a body of the adaptation literature too.

Academic articles on social capital have soared in number since the middle of 1990s (Halpern, 2005: 9). Two main reasons for this are noted; as a reflexive response to the "simplified economic worldview" in the early 1990s, which seriously lacked inquiry into the societal variable; increasing academic interests in "a relationship between the form and quality of people's social networks and a range of important outcomes such

as economic growth, health, crime, educational performance, and even the efficacy of governments" (ibid: 1-2).

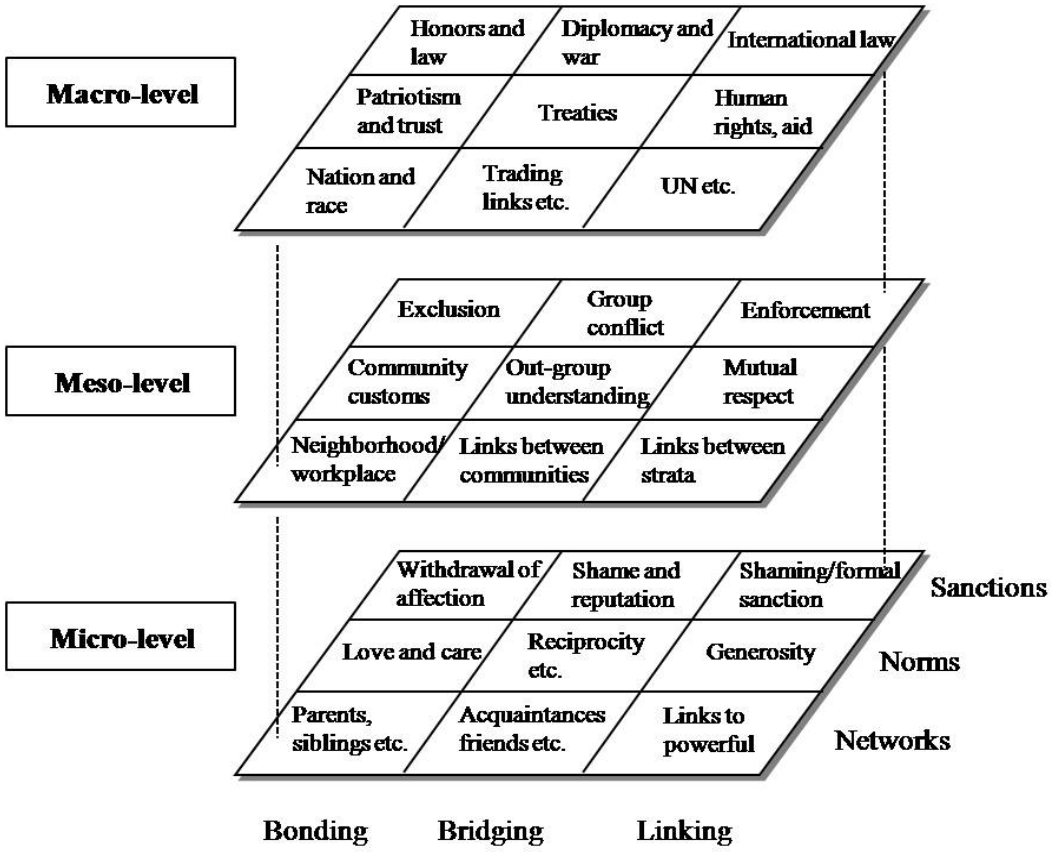
Simply put, social capital is "everyday networks, including many of the social customs and bonds that define them and keep them together" (ibid: 2). People have friends, colleagues and families and belong to certain organizations, communities and ethnicities. They cooperate and quarrel with each other with the same and differing identities and objectives.

3.3.3.1. The multidimensional aspect of social capital

Social capital is a multi-dimensional concept. As in Figure 3.2, Halpern (2005: 26-28) conceptualizes social capital according to three criteria: components such as social networks, norms, sanctions; levels or domain of analysis – individual, group, community, nation etc.; and character or function – bonding, bridging, linking.

Recognition of the multi-dimensions of social capital depends on the idea "whether social capital is more than the sum of its components" (ibid: 27). The concept of social capital is argued to bundle "too much together, and that we should forget the term and simply concentrate on its components" (ibid.). Yet there are certainly intimate causal relationships between different elements of social capital; e.g. between the micro level linking network (access to the powerful) and macro level bridging norms. Surely, there are not such accurate boundaries demarcating the dimensions as in the Figure 3.2. Nevertheless, the figure shows that each component cannot remain separate to account for the entire aspects of social capital.

Figure 3.2 A conceptual map of social capital (with examples)



Sources: Adopted from Halpern (2005: 27).

Needless to say, it is not easy to investigate all linkages amongst components at the different ecological and functional levels, and will be more so when considered together with other variables such as the natural environment and culture. Of great importance is to challenge deterministic claims about the linear causation between social capital and certain outcomes. Some researchers focus simply on the quantitative change in the stocks of social capital. They seem to believe that more social capital always lead to better outcomes. To quantify personal opinion or capture the number of NGOs might be helpful to demonstrate the broad patterns of social capital at the national level. In many instances, however, some types of social capital such as trust have "a strong normative content, something that a positivist epistemology is not well suited to unpacking" them (Grix, 2004: 71). As explained on Table 3.2 below, discrepancies in methodologies towards social capital result from the underlying difference of meta-theoretical perspectives taken by researchers.

Table 3.2. Different approaches to social capital research

Approach	Ontology	Epistemology	Methodology	Methods	Sources
Putnam school	Shallow realist	Empiricist	Choice of quantitative strategy, using multiple cases and surveys	Questionnaire via wide-scale survey	Answers to questions in questionnaire
Alternative approach	Depth realist or idealist	Critical realist/ interpretivist	Choice of both quantitative and qualitative strategy, usually using small number of in-depth cases	In-depth interviews; documentary analysis	Interview transcripts and background statistical data

Sources: Adopted from Grix (2004: 73), with some modification of terms relying on Blaikie (2007).

Relying on this understanding of social capital, the changing characteristic of social capital in Korean society can be considered in light of compressed modernization. For instance, strong social capital is argued to have linked the state and civil society as the critical source of rapid economic growth in Korea (Evans, 1996, Woolcock, 1998). In particular, Evans (1996: 1122) notes that:

> "It is social capital built in interstices between state and society that keeps growth on track. This profusion of concrete ties between officials in organizations such as Taiwan's Industrial Development Bureau, Japan's MITI, or Korea's Ministry of Communications and those who manage private industrial corporations generates in turn a "joint project" of industrial transformation… the social capital that is most critical to the outcome is formed once again in networks that are neither public nor private but fill the gap between the two spheres."

This passage can be construed as meaning that the industrial transformation of the three developmental states was largely thanks to the strong social capital. Relying on the World Values Surveys data, Knack and Keefer (1997) also reaches a similar conclusion that the high level of trust and civil cooperation has a positive relationship with the high rate of economic growth of Korea.

On the other hand, Korean society is recently seen to have undergone obfuscation of upholding social capital. Thus Woo (2007: 8) notes:

> "The low level of South Korea's social capital results largely from the gap between the fast-paced economic growth and the relatively slow-paced improvement in norms and regulations during the era of highly compressed modernization that was pushed through by an authoritarian leadership."

The case of the compressed modernization of Korea is critically examined by other critical scholars with different focuses (Chang, 1999, Chang et al., 1998, Kim, 1998). By and large, these studies see compressed modernization as a source of shrinking social capital in Korean society, not to mention its harmful ramifications such as environmental degradation and increasing technical hazards. One instance stands out to uphold this view as follows.

Despite its highly advanced technology of mobile broadband and Digital Multimedia Broadcasting (DMB)[18], Korean society is argued to have lacked social norms, communicative rationality and code of conducts in cyber communities. These are argued to negate the potential advantage of technological advance; this might facilitate social capital by vitalizing information exchanges and enlarging social networks (Woo et al, 2007: 18). The low political participation in e-government at 10 % is another issue; considering that other countries with similar IT infrastructures can achieve 30-80% participation in e-government (ITU, 2010). As of 2005 in Korea, the government and private companies have crafted DMB technology onto an early warning system of natural disaster risk. This project is at too an early stage to clearly draw implications. For one thing, is it unlikely that non-possession of or low abilities (e.g. the elderly) to utilize ICT equipments leads to another form of marginalization from access to essential information about disaster risks?

The unbalanced phases of economic and socio-political modernity denote that the path of Korea's development has constructed the social milieu where rapidly emerging material and technological realities are not properly dealt with by the hitherto social norms and rules. One might argue that this is not a typical nature of Korea's developmental path since every society to some extent shares the characteristics of unbalanced modernization, for instance suffering emerging environmental risk

[18] The percentage of rural and urban households' access to internet in Korea is the highest in the world at over 90 per cent in 2007 to 2008; that to broadband internet is also the highest at around 75% (ITU, 2010). In addition, Korea became the first country to offer Digital Mobile TV service in 2005, with 17 million users in 2007, that is, about half of the whole population (ibid.).

problems without appropriate governance (Beck, 1998) or the rapid demographic change without a proper welfare system (e.g. the elderly).

3.3.3.2. A dynamic analysis of social capital

Reflecting on the above debate, the rapid modernization that was once facilitated by strong social capital can be seen to have in turn diminished its own driving force (see Chang, 1999: 31). Very curious at this point is what determines the changing nature of social capital in the context of the Korean developmental path.

In a similar vein, some researchers point to a linear causation between social capital and certain variables such as democracy (e.g. Grix, 2004) and political trust (for conterargument in the context of Korea, see Kim, 2005). Yet such a perspective ends up overlooking a vast complex array of social realms and mechanisms where differentially constructed winners and losers come out (regionalism, gender, elite education and economic integration); a variety of values are contested and traded off; formal and informal institutions are reinforced or modified; and the multiple roles of perverse social capital in Korea.

The ways in which a range of social capital are formed and operated to entail certain outcomes, and vice versa are very much context-dependent (ibid.). This is also related to the important question that: how can we measure the degree and change of social capital – qualitative or quantitative? More importantly, whose social capital for what shared social objectives are we talking about? In each empirical chapter, different forms and levels of social capital will be discussed. These need to be taken into consideration when talking about any issue of social responses to the risk of climate change and environmental hazards. No research has considered the implications of the changing nature of social capital for reconfiguring the adaptation deficit in Korea. Addressing the issue of social capital this way has profound implications not only for the post-developmental state regimes such as South Korea, Taiwan and Singapore, but also newly industrializing economies (NIEs) in terms of CCA.

3.4: Institutions and institutional change

Hyden and Court (2002: 13) sees governance as "the formation and stewardship of the formal and informal rules that regulate the public realm, the arena in which state as well as economic and societal actors interact to make decisions". Then why and in what way do the actors make decisions? Decisions presuppose a goal so as to provide the economy and society" with a certain direction or rationale for future changes (peters, 2004: 24). In reality, however, it is tough to embrace all the expressed needs, purposes, and interests of individuals and groups into the decision-making processes, because of the lack of "resources" (ibid.). Therefore, it is necessary for society to constantly seek to develop a systematic "mechanism" in order to decide upon the priority of some values over others (ibid.).

According to Bridge and Perreault (2009: 476), the intellectual origin of the term governance can be traced back to new institutional economics (Coase, 1988: 72, North, 1990, Rutherford, 2001: 187, Williamson, 2000-6), economic sociology, particularly organization theory (Granovetter, 1985, Hall and Taylor, 1996-17) and regime theory (Rosenau, 1995). The three new approaches – also coined as rational choice, sociological and historical institutionalism – challenge the traditional theories such as neo-classical economics, Marxist analyses of the bourgeois state and realist accounts of international relations (ibid.). As will be clearer later, institutional stability/continuity is no longer a more preferred subject of research over institutional change/flexibility. In this section, deeper discernment of institution and institutional change will be done. This is to have a closer look at the process of how already collectively accepted ideas get challenged and either abandoned or modified to bring about a new institutionalization process.

3.4.1. Institutions

Institutions are critical to understanding and coping with environmental changes (O'Riordan and Jordan, 1999: 81). Careful examination of institutions becomes incrementally significant given the extent to which society is experiencing uncertain and complex changes such as threshold events, surprises or cascading effects resulting from major disasters such as the Indian Ocean Tsunami of 2004 (Birkmann and Fernando, 2008, Duit and Galaz, 2008). When the impacts of disasters exceed the limit of social capacity to absorb or cope with them, formal and informal changes in society might ensue (Pelling, 2011). Nevertheless, an institutional approach has not been

employed as much in analysis of the issues of climate change risk as in other issues such as "industrial organization, public policy and economic history" (O'Riordan, 1999: 92, Paavola and Adger, 2005: 354). The concept of environmental governance has gained intellectual attention as late as the mid-1990s (Bridge and Perreault, 2009).

Perhaps, it is invaluable to appreciate how such wide arrange of new institutionalism can be infiltrated into addressing the issue of environmental risk. Yet this consideration is merely beyond the scope of this research (instead, see Hotimsky et al., 2006). We will limit ourselves to explicating the nature of institution and its change.

Institutions are deliberately created or spontaneously sprouting forms of rules and constraints. In addition to constraining and enabling roles (North, 1990), "constitutive" roles of institutions that "confine and mold individual aspiration" are important to fully identify the role of institutions (Hodgson, 2006: 7). Thus, institutions guide the direction towards which individuals obtain, develop and fulfill their own values (Chang, 2002a, Seo and Creed, 2002: 551-2, Hodgson, 2006: 92). This argument directly disputes the presumption of rational choice theorists that rationality is a pre-given property of human beings. This thesis understands institutions as providing individuals or organisations with an opportunity of recalling, creating, negotiating and lapsing heterogeneous values into shared ones in an array of social relations that in turn mould the behaviour and belief of individuals and organisations. Therefore, institutions play a critical role of linking between agency and structure to (re)produce social realities.

The question as to whether to see organisations as actors or institutions relies on the level and scale of analysis, but needs a nuanced account. Organisations are not entirely the same as institutions or individual actors. It is argued that organisations are players at macro levels of analysis (state under the international politics), yet "a special type of institution" at micro-organisational level where internal players and systems of rules do coexist (Hodgson, 2006: 86, 98). As argued by scholars such as Barry Hindess and James Coleman (ibid: 9), understanding organisations as social actors is not problematic on general principles. However, at stake is the fact that the presence of conflict within the organisations does not do justice to regarding organisations entirely the same as single actors (ibid.). Nor is it wholly plausible to argue that organisations

are the same as institutions as rule or constraint. This is so because the former hold agency emanating from constitutive actors while the latter do not. Following Hargrave and Van de Ven (2006: 866) and the above debates, this thesis makes a distinction between "institutional actors [or entities]" and "institutional arrangements, with the term institution referring to the latter." It is stated, "it is only by virtue of an institutional arrangement that an organisation can act as though it is a person with specifically designed rights and duties" (ibid.).

North's accounts of institution have been widely upheld but can be further classified. Based on Jütting (2003: 11-4), different domains, formality and different hierarchical levels will be considered for clarifying the multi-layered facet of institutions at more length.

3.4.1.1. Domains of institutions

Institutions are classified into diverse domains of economics, politics, society and environment (ibid.). Yet, it does not mean there are clear cuts exclusively classifying them into each arena. Institutions, if not all, belong to more than one area. For instance, the market has been seen simply as an economic institution or just "the aggregation of mere individual exchanges" by cohorts of the market (Hodgson, 2005: 89-90). Yet the market is not only an economic but also political, societal or environmental institution. Even in perfectly competitive (free) market that has been adhered by neo-liberalists, social justice, social convention and other political principles for markets to properly work should inevitably exist (Chang, 2002a: 551-3, Hodgson, 2006: 89). There is no reason why the market should be seen only as the economic institution. Rather, the market is a complex area in which a variety of social, political and environmental aspects should also be dealt with by a holistic approach (Ostrom, 2005: 26). This is by and large the case for other institutions, but the key point is that institutional analysis generally requires that institutions not be narrowly defined and analysed. Being crucial, this point allows moving away from the single-minded and reductionist approach that market mechanism or techno-centralism will offer sufficient leverage for solving environmental risks.

3.4.1.2. Formality of institutions

The concept of different formality helps researchers preclude from ignoring the significance of informal constraints (North, 1990: 36-7). In *general*, formal rules (e.g. legislation, constitution) can immediately change as urgent needs arise; yet, informal

constraints *tend* to be less variable as they are profoundly embodied in cultural norms (ibid: 6). Of course, this does not mean that informal constraints cannot radically alter: e.g. under complex changes such as abrupt events, surprises (Duit and Galaz, 2008). Formal rules can also endure over the long period of time. Whilst formal rules are codified, informal constraints are not explicitly written or stated (ibid: 46). Perhaps, that informal rules are less explicitly stipulated does not mean its expression is weaker than formal institutions. Both self/internal (friendship/neighbourhood) and third-party/external (government/law court) type of enforcement makes institutions operative in inducing cooperative behaviour of individuals devoid of information, cognitive ability and mutual trust of each other (ibid: 57-8). Therefore, to understand and produce a model of institutions necessarily involves taking account of "the structural characteristic of informal constraints, formal rules, and enforcement and the way in which they evolve" and interact (ibid: 35).

Whereas formal rules have been considered crucial in ordering human life, the widespread of informal constraints such as codes of conduct, norms of behaviour, conventions and customs has been neglected in the past research (ibid.). It may be not wrong to say that as societies transform, ever more perplexing disputes and tension between and/or within individuals and organizations require more complex "formal structures to specify principle/agent relationships" (ibid). Nevertheless, it does not imply that informal constraints are negligible (see, e.g. Birkmann et al, 2008; Pelling, et al, 2008). Even the same formal institution in different societies can induce different outcomes depending on differing informal constraints (for different cultural capacities as a factor in inducing different institution-building, see Fukuyama, 2001: 12). Crucial from this point is that informal constraints are as significant causes of human behavioural outcomes as formal rules so that they should be examined together for institutional analysis. It should also be noted that the assessment of informal constrains is not necessarily the same as that of formal rules because unlike the latter the former is not recorded in documents, and hence less explicit to be analysed (Birkmann et al, 2008).

What tools/data can researchers employ to explicate formal and informal constraints? At a generic level, it can be said that data about former institutions are relatively easy to collect. Researchers can infer by observing, interpreting and understanding

collective expressions, standardised meanings or habits, patterned reactions to certain external shocks to draw functional roles and normative values enshrined within the informal institutions.

3.4.1.3. Hierarchical level of institutions

The level of hierarchy enables to classify institution into several hierarchical forms, offering an insight into the temporal and spatial differentiation of institution; 1) the time needed to emerge and change; and 2) the hierarchical locus where the institutions mainly operate. Whilst the institutions at differing hierarchical levels have their own effects on society, organisations and individuals, they also influence each other through diverse routes (Williamson, 2000: 596-600). However, this classification should not be understood to argue that institutions always behave strictly according to such fixed criterion (ibid.). As pointed out earlier, for instance, some informal constraints can immediately change in the wake of catastrophic events. The tsunami of 2004 in Southeast Asia brought about an immediate change in informal constrains; psychological status and risk perception of the affected people led to institutional change for fostering disaster preparedness (Birkmann and Fernando, 2008).

Instead, this hierarchical classification pertinently shows why some countries that implement a similar combination of institutions might not entail the same empirical outcome. Can the same issue of risk or crisis be dealt with by institutional configurations with completely different forms? Or can the homogenous institution in differing settings take entirely different roles and objectives? Put it differently, is it always beneficial for poor countries to borrow the dominant institutional prescription from the rich countries in terms of addressing environmental risks? Answering these questions might require numerous studies in probing into the complex interplays amongst institutions of different scales. Establishing a general institutional model to validate this vein of argument is beyond the scope of this research. Important to bear in mind is that when we discuss institution we should get aware of, not only its relationship with agency (of human and non-human actors) and other institutions at differing levels, but also the whole metabolism in which a change in one institution possibly influences the institutional setting as a whole.

3.4.2. Agent and agency

Having examined the basic attributes of institution, it is necessary to note that institutions do not perform without (human) agency. In general terms, human agency

refers to “the capabilities of human beings” to bring about actions or changes, “making a difference” (Johnston, 2000: 349). However, the concept of human agency has for long been a matter of some dispute at least since the Enlightenment: the debate over the true nature of human actions, rational selfish versus norm-laden orientation towards actions (Emirbayer and Mische, 1998: 1998). Johnston’s three questions about agency deserve attention (ibid.). Should agents be limited to human agents? Is intention/purposefulness enough a variable for explaining actions or behaviours to occur? Perhaps most importantly, what is the way in which agency relates to its structure? The last question will be answered later in the section of institutional changes.

First, it has been taken for granted that companies or states are not agents because they apparently lack “the will and consciousness” (Giddens, cited in Johnston, 2000: 350). Therefore, agents are thought to be limited to human agents on the ground that such collective grouping of individuals needs to be interpreted by human agents after all. In fact, however, restricting agency to human agency cannot do justice to the complex embodiment of agency. For example, Actor-Network Theory (ANT) offers the conception of “actants” (Latour, 1996). Agents as the collective rather than individuals within networks construct the capabilities to bring about social actions (ibid.). Besides, non-human entities (e.g. machines and other human artefacts) also exert a non-trivial influence on constituting the ability. Accordingly, “agency is reconfigured as a relational effect generated by a network of heterogeneous, interacting components whose activity is constituted in the networks of which they form a part” (Whatmore, cited in (Whatmore, cited in Johnston, 2000: 350). In this sense, agency can refer to more than simply human agency. This perspective is valuable due to not only its inquiry into the authenticity of anthropocentric conception of agency but also its inclusiveness of material reality in accounting for constituting agency.

Second, while rational choice theory North (2005: 1-3) narrowly identifies an action in terms of “intentionality” or “goal seeking”, institutionalists in the organization theory of sociology (Giddens cited in Johnston, et al, 2000: 350) attribute the cause of actions to “habitus” or “routinized practices” (Emirbayer and Mische, 1998). Meanwhile, according to some historical institutionalists, actions might happen without any precast intentions or purposes (Hay and Wincott: 1998); thus contingent characteristics of

institutional change. Interestingly, Emirbayer and Mische (1998) point out that the above approaches too narrowly delineate the orientations towards actions because all of them fail to consider agency as "an analytical category in its own right" (ibid: 963). They argue that the orientation towards actions is subject to "the changing temporal frameworks" (ibid: 967). An actor is defined to iterate reconstruction of past ideas and actions in order to project possible future actions (new expectation), thereby making a decision among available options to deal with emerging challenges in the present (ibid, 969). In addition, human agents do not merely "repeat past routines" but explore and create new strategies thanks to their innovative capacity to envisage "new possibilities" (ibid, 983-4). These points will be in greater detail discussed below. Yet, the analytical strength of this pragmatist conception of agency lies in avoiding the dichotomy between intentionality and culture for explaining the orientation towards actions.

To grasp what agency is requires the consideration of the multi-layered structure and constitutive elements of agency, for example as in ANT theory. The origin in agency should also be accounted for with consideration of the temporal orientation towards it (iteration of reconstruction of the past thoughts and actions, imagination of the future possibilities and making a decision out of possible options and actions in the present) and its conceptual as well as practical usage (dealing with not only familiar/repetitive but also novel problems). By elaborating the concept of agency in light of the relationship between institutions, agents and non-human entities including the environment, the following section will try to remould the model of institutional change.

3.4.3. Institutional changes

One question immediately one can have at this stage is: do institutions ever change and how? What does it mean by institutions change? The interconnectedness between differing institutions and the intimate relationship between individuals and institutions are essential to adequately account for institutional changes. Drawing the above accounts of institution and agency, an institutional change refers to changes in form, function, role and normative objective of as well as relations between a wide range of agency, institutions and enforcement mechanism.

All the schools of new institutionalism are, however, appear to have not provided clear thoughts of an institutional change since they are "too discipline bound" (O'Riordan

and Jordan, 1999: 84) or have paid more attention into institutional stability than change in the past (Seo and Creed, 2002: 222). Such relatively less paid attention to the given subject might be also ascribed to the difficulty of solving a theoretical dilemma: in what way can agents change institutions if their preferences, motivation and purposes are constructed by the institutions they intend to change? (Holm, cited in Seo and Creed, 2002: 223). There is however increasing interest in, and appealing attempts to understand, institutional changes across differing disciplines and schools. This is argued in this thesis to have an intimate relationship with the changing worldview (see Section 3.2).

First, discipline-bound interpretations of institutional change are not odd at all given that the presence of heterogeneous features and domains of institutions leads to holding differing starting points, and dissimilar interests in the levels, of institutional analyses. Yet, this does not imply that there are not certain points at which institutional theorists synthesize different perspectives and ideas. Moreover, sharing ideas does not essentially produce useless disputes devastating each other's perspectives towards the given subject. It needs to be clearly mentioned that to encourage learning from others, whilst remaining committed to one's interests, objectives and differing philosophical perspectives, is conducive to producing the holistic approach to comprehending the complex nature of institutions.

There is a good case for the notion that embracing differing ideas goes beyond mere conflation of opposing ideas. North's fundamental idea about institution and its changes stemmed from his initial attempt to modify the neo-classical economics-informed theory. He previously explained that institutional changes occur in response to changes in an incentive mechanism triggered off by "fundamental changes in relative prices" (North, 1990: 83). This claim might be seen as supportive of individuals-alone (rational choice) theory. This is reminiscent of that of other adherents of (free) markets who are generally methodological individualists. However, North in recent works reveals somewhat different points of view. It is worth noting that:

> "the simple fact is that a dynamic theory of institutional change limited to the strictly neo-classical constraint of individualistic, rational purposive activity would never allow us to explain most of secular change ranging

> from the stubborn struggle of the Jews in antiquity to the passage of the Social Security Act in 1935 North" (cited in Rutherford, 2001: 188).

In this sense, North has not merely tinkered with his early notion of rational/selfish agents but also tried to incorporate it into a more comprehensive analytical tool through "convergence with the ideas [as well as thematic interests] of old institutionalists (ibid.)."[19]

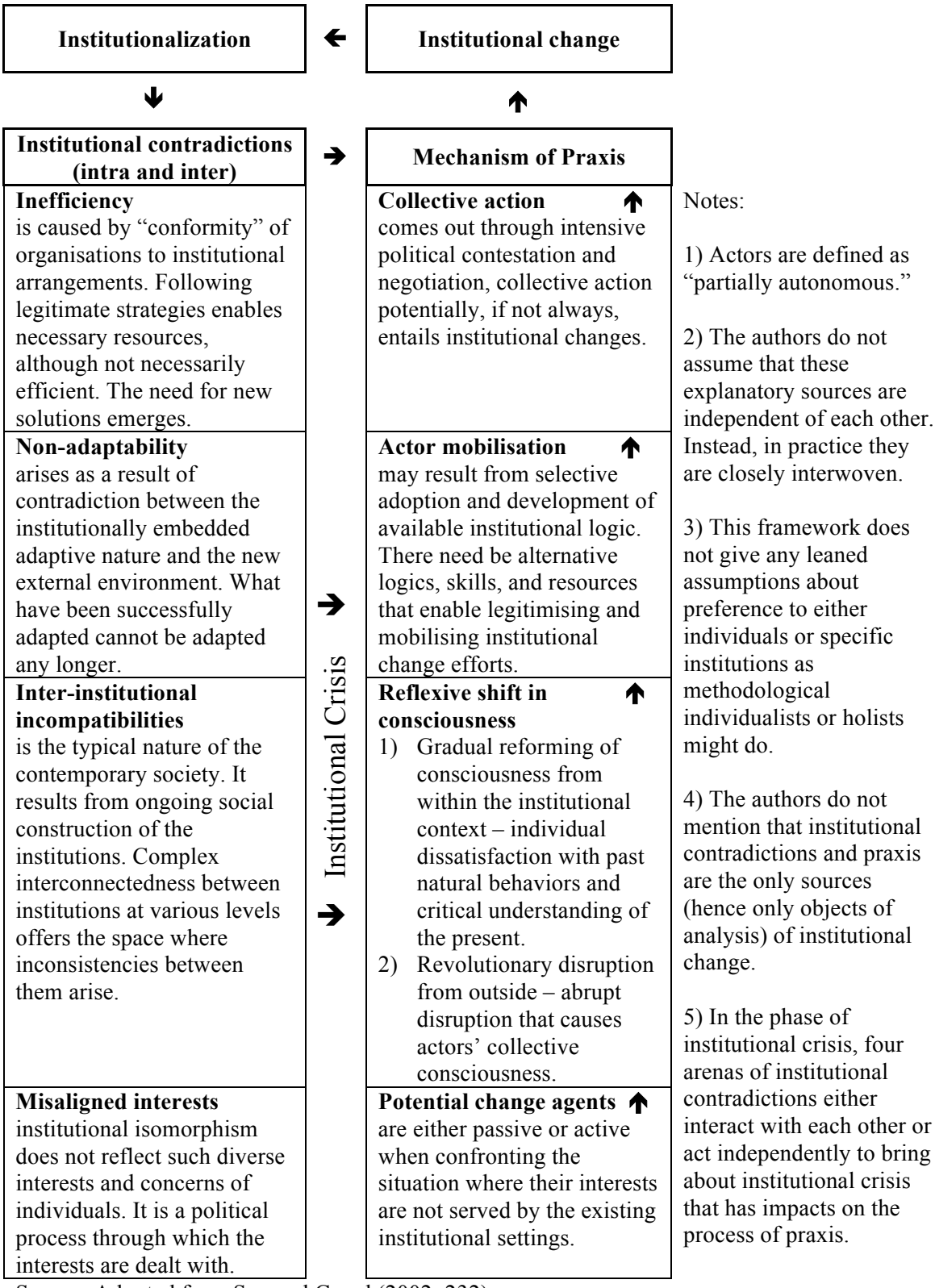
Next, the thematic issue appears to hinge on the methodological point of view. North has become interested in other analytical elements such as individual cognition, ideologies, path dependence, social norms, and human physical environment. In his recent works he has abandoned the static efficiency view, that is, selfish and rational agent in response to changes in relative price mechanism (North, 2005, Toboso, 2001: 777). Even more, he has obtained non-trivial ideas from other institutional schools of thought such as social and historical institutionalism. However, it should be also remembered that he has retained some core methodological positions (analytical emphases are placed on individuals, North, 2005).

Second, there have been appealing attempts to solve the theoretical dilemma by adopting "mutually constitutive nature of structure and agency" (Giddens and Bourdieu, cited in Seo and Creed, 2002: 223). Toboso (2002) provides a flexible institutional framework in which he takes on core points from both methodological individualism and methodological holism. This perspective proposes *institutional individualism* that is "non-reductionist" but "a middle way mode of explanation" of institutional changes (ibid.: 766). Three propositions suggested are worth noting that: 1) only human beings can direct aims and pursue interests either independently or collectively; 2) "Formal and informal sets of institutional rules affecting interactions among persons must be part of the explanatory variables" (ibid: 770); 3) "Marginal institutional changes always result from the independent or collective actions of some persons and always take place within wider institutional frameworks" (ibid: 771). Even if the flexibility of this explanation helps to guide the way forward overcoming the theoretical dilemma, it still lacks adequate explications.

[19] In the straightforward meaning of methodological individualism, if one is to examine properly socio-economic issues, he or she ought to start by looking into the inherent nature of "atomized individuals"; rationality, selfishness and purposive behavior (see Granovetter, 1985: 482, Hodgson, 2007: 211).

Seo and Creed (2002: 231-8) provide a systematic framework to solve the discursive dilemma drawing upon Berson's core ideas of organisations (see Figure 3.3). They elaborate the ideas into the dialectic institutional framework, in light of considering the concept of "institutional contradictions" and "partially autonomous and artful actors". The basis on this analysis is to accept that institutional changes are not only constantly generated outcomes of processes in which institutional contradictions activate collective action of agents but also the source of institutionalisation that result in institutional contradictions (ibid.). The focal point of the framework is its applicability to institutional "changes of various types (revolutionary and incremental), at various levels (organizational, inter-organizational, intra-governmental or international), in various institutional contexts (tightly coupled and loosely coupled) (see Seo and Creed, 2002: 240)." Besides, this dialectical model of institutional changes demonstrates how different schools of thought can share their own ideas in explaining institutional changes without inevitable abandonment of their own logics and ideas.

Figure 3.3 Institutional Contradictions and the mechanism of praxis



Source: Adopted from Seo and Creed (2002: 232)

Rational choice institutionalists might be able to learn from this model about how social embeddedness (culture and routinised practices) mould individuals' belief

systems and interests by taking the concept of "misaligned" interests. Individuals' interests are to some extent constructed by precast institutions in place. Yet, it is necessary to question if and how ideas as much a broader concept than interest leads to institutional crisis (see section 3.5). Historical and sociological institutional theorists might learn the way in which individuals become partly artful agents in order to intentionally convert inter-institutional contradiction into actual changes in institutions.

As admitted by the article authors, however, this model requires exploring much more about "the factors, processes and dynamics involved in the later stage of institutional change" (ibid.). Furthermore, core questions have remained untouched. Are the institutional contradictions and praxis process only constitutive factors in explaining the whole process of institutional change? Can any institutional change occur without individuals' consciousness of unmet interests? Are there any other exogenous or endogenous factors inside and outside the whole process of institutional change in shaping institutions and agency? Can the risk of climate change and environmental risk directly bring about institutional changes? Can political and social changes aggravate social vulnerability where there is no environmental change?

Raising these contextual questions does not mean that the above model of institutional change is inappropriate; but there is room for further development. For example, institutions might fully remain unchanged even if they are considered inefficient, inadaptable and incompatible. It would be the case even when interests of certain groups (often minority groups) are seriously violated. Meanwhile, institutions might be regarded as entirely efficient, adaptable and compatible to some groups (not always but often vested interests) whose interests remain unharmed. In this regard, suggesting three options for CCA – e.g. no change, marginal change, and transformative change – is not enough, if not wrong. This categorisation might better work for policy makers or powerful groups in society than minority groups (e.g. migrants). In reality, one can easily imagine that the marginalised are *forced* not to change; *forced* to change only marginally; or *forced* to change in a transformative way. There is a compelling need to discuss why certain ideas are valued over others; only a political perspective can inform this debate. This thesis does not directly deal with the case of minority groups' vulnerability that is politically underrepresented. Instead, it is suggested that idea should replace interest in the above model (Figure 3. 3). Misalignment of not only

interest but also many other kinds of idea need be included in the debate upon institutional change (see Table 3.4). More detailed account of ideas and discourses will follow in the next section.

3.5: Social innovation: idea and discourse

In order to further refine the model of institutional change (Seo and Creed, 2002), this section formalises three concepts: social innovation, idea and discourse. The recently increasing interest in the role of social innovation for CCA is relevant to the awareness of the increasing importance of idea and discourse in political spheres (DiGiano and Racelis, 2012, Chhetri et al., 2012, Rodima-Taylor, 2012, Olwig, 2012, Rodima-Taylor et al., 2012, Bauriedl, 2011).

3.5.1. Social innovation

Until fairly recently the topic of social innovation was seldom addressed seriously in academia. As Nilson lamented; "there is no literature on social innovation…[t]he term 'social innovation' is rarely used in a scholarly or in a commonplace way" (Nilson, 2003: 3) (but for the early call for social innovation see Gabor, 1970). Over the last decade, however, the term has attracted increasing attention from scholars and practitioners. Social innovation differs from business innovation (Pol and Ville, 2009), and from social entrepreneurship or social enterprise (Phills, et al.,Phills, 2008). Simply put, the notion of social innovation is invaluable in as much as it calls attention to the changing view to how innovation helps humans and society (Pol and Ville, 2009). Despite the recent popularity of the term, the phenomenon for which it accounts is not new at all (GOC, 2010).

On the other hand, however, cynical researchers see social innovation as "no more than a buzz word" lacking a precise meaning so that it has little explanatory power for *specific* reality or actualities (Pol and Ville, 2009: 878). They see the utility of the term limited for a number of reasons; both because what constitutes social innovation is arbitrary and depends on the viewers' interpretation, and because it explains everything, and hence nothing in specific. Certainly, researchers have used the term in many different, confusing ways. As will be clearer later, however, this does not legitimize the abandonment of the term, indeed, it presents a good opportunity for diversifying our understanding of climate change adaptation and the ways in which it should be problematized.

If the concept of social innovation is to help elaborate the analytical framework of this thesis, we must consider the strengths and weaknesses of the concept in particular contexts. In this section, I shall identify what is known about social innovation, and assess how far it can inform research on CCA.

Table 3.3. Accounts and definitions of social innovation

	Definitions of social innovation
Heiscala 2007 (cited in, Pol and Ville, 2009: 879)	Social innovations are changes in the cultural, normative or regulative structures [or classes] of the society which enhance its collective power resources and improve its economic and social performance. [Unlike technological and economic innovations], [r]egulative innovations transform explicit regulations and/or the way they are sanctioned. Normative innovations challenge established value commitments and/or the way the values are specified into legitimate social norms. Finally, cultural innovations challenge the established ways to interpret reality by transforming mental paradigms, cognitive frames and habits of interpretation. Taken together these three classes form the sphere of social innovations.
Mulgan (2006: 146) / the Young Foundation	Social innovation refers to new ideas that work in meeting social goals. Social innovation refers to innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly diffused through organizations whose primary purposes are social.
Pol and Ville (2009: 881)	An innovation is termed a social innovation if the implied new idea has the potential to improve either the quality or the quantity of life (longevity). Quality of life refers to macro-quality of life [– the set of valuable options in society –] and by improvement in the quality of life is meant increase in the number of valuable options that people can choose from.
Phills, et al., (Phills, 2008: no page)	A novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals.
Westley (2008: 1)	Social innovation is an initiative, product or process or program that profoundly changes the basic routines, resource and authority flows or beliefs of any social system.
McGill Dupont Social Innovation Initiative (Nilson, 2003: 3)	Social innovation is a significant, creative, and sustainable shift in the way that a given society dealt with a profound and previously intractable problem such as poverty, disease, violence, or environmental deterioration.

Sources: As cited in the table.
Note: Parentheses added.

Pol and Ville (2009) make some important points that ought to be borne in mind when conceptualizing social innovation. First, the concept of social innovation should be neither too general (e.g. claiming it to fit every type of innovation), nor too strict (e.g. narrow focus on purely social change). Whilst different innovations involve different goals, means, and stakeholders they might also overlap or be interrelated. Next, an

essentialist definition (e.g. true social innovation) is neither desirable nor practically possible, because of "value judgments underlying the notion of desirable social innovation" (ibid: 883). Lastly, the necessary environments, which affect "the characteristics that define some object," do not constitute the definition of the object (ibid: 884). Mistaking social innovation for a desirable condition (e.g. public participation or political freedom) can lead to more confusion over what it actually denotes. Social innovation can unexpectedly occur without good faith or intention. Relying on these points Pol and Ville argue that: "[a]n innovation is termed a social innovation if the implied new idea has the potential to improve either the quality or the quantity of life" (ibid: 881). This raises the following questions, however: Is it necessarily *new* ideas that bring about innovation?

The above question calls attention to ideas about ideas and discourses. We limit ourselves to scrutinizing ideas and discourse in terms of politics here. One core reason is that politics is a site through which social innovation can be debated, contested, legitimized and implemented.

3.5.2. Ideas

Few people would deny that ideas matter for life and politics. Even some rational choice theorists have been at pains to integrate the notion of interest with that of ideas (e.g. see North, 2005, Elster, 1989). As Jal Mehta notes, it is now time to study "how" rather than if ideas matter (Mehta, 2011: 26-9). Yet, what are ideas anyway? Where do they exist? How are they created, adopted, diffused, changed, exchanged and refuted? In fact, there are "so many ideas about ideas" (Schmidt, 2008: 306).

What constitutes ideas has been defined in a variety of ways; they are causal belief (Béland and Cox, 2011); "switches for interests, road maps, or focal points" (Goldstein & Keohane 1993, cited in Schmidt, 2008: 306); or "claims about descriptions of the world, causal relationships, or the normative legitimacy of certain actions" (Parsons 2002, cited in Béland, 2009: 702). Required are a more comprehensive account of ideas in the context of institutional change, and how different schools of institutionalism have made differing conceptual linkages of ideas to their core propositions of institution: e.g. interest, path dependency and social appropriateness. Yet, we here deal mainly with the nature of ideas in politics and in the public sphere in

particular (Habermas, 1996). Before that, the brief account of the reason why ideas have gained prominence in social science studies should be presented.

3.5.2.1. The background of the development of ideational analysis

Béland and Cox (2011: 6-9) ascribes the rising importance of ideational analysis in social scientific research to five factors as follows. First, New Institutionalism (NI) and cultural theory have emerged to either replace or move beyond the notions of behaviorism and systems theory, which had intentionally ruled out consideration of ideas and values from their analysis of politics and democracy until recently (Habermas, 1996). Second, new scholarship has emerged that sets agendas and defines problems anew, which has led to renewed interest in ideational analysis in policy studies. Third, the rise of the constructivist school in the area of international relations did more much to reignite scholars' interest in the ways in which ideas, discourses and culture structure foreign policy (see also Marsh and Sharman, 2009). Fourth, there was an effort to resurrect the notion of ideology while moving beyond the Marxist "materialist vision of ideology." Finally, some analysts placed more attention to what roles ideas and discourse play in shaping "racial and gendered identities and inequalities." Despite the differences amongst these approaches to ideas, there is a common thread that runs through them; namely, the concern with the relationship of ideas to interest, institutions and institutional change. Further classification of idea in Table 3.4 helps clarify the relationships.

3.5.2.2. Newness of ideas

Drawing on perspectives from mainstream ideational research, Carstensen (2010: 850-1) stresses three characteristics of ideas: their "path-dependency", the "interrelation" among ideas that cause practical impacts, and the "open and fluid boundaries of ideas". Ideas, however novel they might be, are formed on the basis of past collective memories; that an idea is added or removed from the latter has a considerable influence "on the meaning of the idea in question and on the meaning of the components of the already existing network of ideas." In addition, ideas have a tendency to be "semantically" coupled with some particular ideas rather than with other ones. From this historical-institutionalist perspective, new ideas are by no means entirely new. Similarly, GOC (2010: no page) notes that "social innovations entail novel applications of ideas, the ideas themselves need not necessarily be new: the process often involves novel adaptation (or recommendations) of existing ideas and/or their application to new areas." Yet, only if we have a grasp of the ontology of ideas,

can we answer the question as to how ideas change, through what processes, by whose participation and for what reasons.

3.5.2.3. Different types and components of ideas in politics

Sociologists and political scientists classify ideas according to two broad schemas (Campbell, 1998, Schmidt, 2008, Schmidt, 2010); the first differentiates cognitive (causal) ideas and normative ideas, while the second contrasts foreground ideas and background ideas (see Table 3.4). Some theorists, if not all, divide foreground ideas into policy and programmatic ideas (see, for example Campbell, 1998). Background ideas consist of a set of philosophical assumptions. As explained in Table 3.4, normative ideas such as values, norms and identities not only define if given policies fulfill "the aspirations and ideals of the general public", but also make different levels of cognitive ideas accorded with each other (Schmidt, 2008: 307).

Table 3.4. Different types of ideas

Levels	**Foreground ideas (regularly debated and contested)**		**Background ideas (rarely questioned except times of shocks and crises)**
Functions	Policy level	Programmatic level	
Cognitive ideas	Elite policy prescriptions that define a specific course of action, recipes, guidelines, or maps for political action (e.g. Keynesianism, monetarism, broken-windows policing)	Cause-effect belief system, problem-definition system, frames of reference, a plank of policy, the philosophy of science (e.g. Thomas Kuhn's the structure of scientific revolutions)	Philosophical ideas, world view, and zeitgeist
Normative ideas	Values, norms, identities, principled beliefs, and etiquette that are collectively developed and enshrined expectations. These normative ideas also check and monitor if different levels of cognitive ideas are matched with each other.		

Source: Adopted from Black et al. (2005), Campbell (1998), Mehta (2011), and Schmidt (2008).

Table 3.4. helps understand the nature of ideas, and hence how social innovation springs from the mismatch between social reality and social needs. The complexity of the different levels and types of ideas and their interactions indicates that it is problematic to claim any new idea to be entirely new. Moreover, the complexity clarifies why similar policy ideas are unevenly successful across place and time. For example, if policy level, foreground ideas are introduced in countries with different background and normative ideas, or in which the relationships between these types of

ideas differ, then the outcome is likely to vary considerably and will not be the same in each case.

3.5.2.4. Diffusion/transfer of policy ideas

The spatial movement of (policy) ideas across countries is of increasing concern in policy studies and international relations. The diffusion of similar policy ideas might bring about different outcomes in the adopting countries due to the different set of mechanisms, such as "learning, competition, coercion, mimicry" (Marsh and Sharman, 2009: 271). For example, "[n]eo-liberalism emerged out of an 'unholy alliance' between neo-classical economics, which provided most of the analytical tools – [cognitive ideas], and what we may call the Australian-libertarian traditions, which provided the political and moral philosophy" – [normative ideas] (Chang, 2002a: parenthesis added). When the cultural, discursive, and academic background of importing countries differs from that of the countries from which the neo-liberal ideas emerged, we should seriously consider the different ramifications of the diffusion of ideas on the importing countries. The receiving countries often lack the notion of individual freedom, social security nets, infrastructure and fair access to education, as well as strong civil society (e.g. the western type of NGOs). These assets are relatively well established in those developed countries that support of neo-liberalism. Without (the assumption of) self-interested individuals and without the set of the ideas present in rich countries, how can the notion of liberalism possibly work in the way that its supporters might expect in less developed societies? Often, however, policy makers in the adopting countries assign more normative value to the practices and ideas of the so-called developed countries, although they know that they are not technically and rationally feasible in their own countries (Marsh and Sharman, 2009).

By the same token, Pol and Ville (2009)'s aforementioned definition of social innovation does not do justice to the complex process by which different types and levels of ideas are interlinked; not to the way in which new ideas are contested, interpreted and adopted in relation to a group of already existing ideas. We do not argue that a definition of an object must fully represent the entire characteristics of the object. Yet, when it comes to actual use for research, we must seek to deeply understand the integral parts of the definition. This also leads to a matter of choosing indicators that stand for the concept. This idea leads to acquiring a better understanding how different ideas work and interrelate to (fail to) produce actual

impacts on life or politics; and also who takes a major role in projecting ideas to the centre of politics and policy construction. For this reason, we turn our attention to the debate upon if discourse is more than a set of ideas; and if that discourse is important for the success of social innovation.

3.5.3. Discourse as more than a set of ideas

Some social scientists seem to discard the term discourse from their research, in the mistaken belief that discourse is the exclusive property of post-modernism/post-structuralism. Critiquing the belief, Schmidt (2008: 305) defines discourse:

> "Discourse, as defined herein, is stripped of post-modernist baggage to serve as a more generic term that encompasses not only the substantive content of ideas but also the *interactive processes* by which ideas are conveyed. Discourse is not just ideas or "text" [what is said] but also context [where, when, how, and why it was said]. The term refers not only to structure [what is said, or where and how] but also to agency [who said what to whom]" (parentheses added).

In this regard, discourse refers to the manner in which a variety of ideas and beliefs unfold, with the potential to have practical impacts, at the intersection between structure and agency. Drawing on the Habermasian notion of the public sphere, Schmidt goes further to divide "coordinative discourse" in the public sphere and the "communicative discourse" in the political sphere (ibid: 310).

Coordinative discourse involves the area of policy construction, to which various agents such as civil servants, elected officials, academics, organized interests, think tanks, INGOs, and advisory boards might contribute. These actors have shared beliefs that consist of a set of cognitive and normative ideas. Cases in point are communities of practice in climate change adaptation (Pelling and High, 2005) and organizational learning (Wenger, 2000); epistemic communities such as the Resilience Alliance (see http://www.resalliance.org) (Haas, cited in Schmidt, 2008); advocacy coalitions in policy change and learning as response to natural disasters (Albright, 2011); policy community (Smith, 1991). They are not always open, though. For example, the British agricultural community in the post-war period was closed, compared to the food policy community of that time. Before the 1990s, food policies were treated as a site for "routine technical decisions" without room for wider political decision-making (ibid: 235). The initiatory stage when the issues of the link between *Salmonella* and eggs,

Listeria and BSE were brought forwarded well illuminates the closeness of the agricultural community, which continued to prevent food from becoming a political issue. This is an example of how a closed and exclusive circumstance of policy construction and existing power relations hinder a political innovation process.

Communicative discourse penetrates through the political sphere (Schmidt, 2008: 310). Actively engaged in policy forums, broadcast discussions, and conferences, the involved individuals and groups present, deliberate, and legitimize policy and programmatic ideas to "the general public"(ibid.). The scope of participants here is wider than that of the public sphere, and includes "members of opposition parties, the media, pundits, community leaders, social activists, public intellectuals, experts, think-tanks, organized interests, and social movement" (ibid.). The general public can also give political actors feedback on their policy ideas through their participation in the electoral process.

The relationship between the two spheres of discourse is rather complex in reality, and shapes the nature of the whole (adaptive) governance. When ideas are produced in either of the two spheres, the direction of their movement and/or influence is not fixed, but unpredictable: e.g. the top down, bottom up, or stasis within the originating place. In short, the key point is that discourse is the environment through which ideas interact and policy gets formed; therefore, it influences the way social innovation arises.

In what way could the debate on ideas and discourse help refine the model of institutional change, and inform the current research? First, the discussion about idea helps further elaborate the account of agency within the model. Particularly it goes beyond a narrow, interest-centered explanation of agency manifestation. Interest is but one of many ideational factors to cause changes in human action. Second, it is important to discuss two spheres of discourse and the internal power relations. Who can participate in each sphere of discourse? Who are intentionally/accidently marginalised from either sphere of discourse? It seems clear that the way in which certain ideas gain more legitimacy over others is not straightforward, but very complex. Along with the debate on social capital, the two discursive spheres can be taken to further elaborate the mechanism of praxis in terms of political contestation and negotiation (see Figure 3.3).

3.6: Conclusion: the multifocal analytical framework

Sociopolitical response to hazard risk such as CCA and DRR is a (combination of) complex and multifaceted social process(es). Cooperation, conflict, differentiation, integration, inclusion, exclusion, marginalisation, and many other social processes need be considered together when researching CCA. Perhaps, less highlighted is the seriousness of knowledge gaps regarding CCA stemming from the lack of applying diverse angles from which to study CCA. For this reason, this chapter delved into the complexity of social reality by closely reviewing several key analytical frames such as expectation, institution, innovation and social capital.

In the context of fostering CCA and DRR, an increasing number of studies have tried to scrutinise the ontological nature, roles and necessity of institution and institutional change. It is extremely important to understand what institutions are and how and why they change, if this research is to properly examine the process by which disaster risk becomes a political issue in Korea. A closer look at social capital allowed deeper understanding of how collective action can channel critical consciousness into social innovation while inquiries into social innovation shed light on the importance of ideas and discourse in political spheres of disaster. It is argued that CCA in Korea to a large extent involves dealing with dually structured risk of environmental hazards (see Chapter two). This research built upon various concepts introduced in this chapter to inspect varied political reflections on urban risk and social construction of impending risk regarding construction of the naval base.

How can the multifocal analytical framework inform the rest of the current research? The analytical framework allows examining how ideas and institutions evolve in the realms of disaster politics and CCA; not just their existence but also their modus operandi. In this sense, not only the extent of change (e.g. no change, marginal change and transformative change) but also the wider nature and aspects of change should be taken into consideration when talking about CCA. The multi-focal analytical framework set up in this chapter is one of such attempts.

Chapter 4: Researching the disaster politics of dual-risk

4.1: Introduction

As Blaikie (2007: 1) argues, social scientists need to confront "a range of choices and dilemmas that lead to the use of fundamentally different research strategies" that possibly result in very different research findings. Acknowledging this point, the ontological and epistemological conceptualisation described in this chapter was prepared pre-field work and revised upon its completion. It was particularly challenging when the philosophy of complexity was introduced to the research in its early stage (e.g. Duit and Galaz, 2008, Reed and Harvey, 1992, Walby, 2007).

At many points during the period of fieldwork, being able to apply complexity thinking allowed for a more multilayered analytical approach. This was because it fostered seeing the possibility of the social reality under inquiry, which in this case was the political reflection on dual-risk in Korea, to be interlocked with many other variables and events in numerous ways. On the positive side, it kept the fieldwork open to contingent events, informal processes, and new informants that helped situate the thesis author at critical phases in which political reflections were formed.

The first part of this chapter discusses how metaphysical conceptualisation informed and fostered the research process. The research finds critical realism and complexity philosophy useful in overcoming the simplistic causal belief of social change that is frequently found in more positivism-informed studies of adaptation and disaster risk.

The second half of the chapter, in more detail, deals with methodological and analytical concerns raised during and after fieldwork. The challenges are related to case selection, recruiting research participants and data collection in the practical conduct of fieldwork. Then, it is important to show if changes or additions were made to the techniques for data collection to achieve the research objectives. Last, the analytical difficulties raised during writing-up of this thesis (e.g. translation from English to Korean) will be considered. The issue of translation is particularly important. Certainly, there are not always proper English terms to express the meanings, feelings, roles and events that are exclusively found in Korean culture.

4.2: Ontology and Epistemology

A few researchers might undertake their research projects without theoretical underpinnings (Grix, 2004). Yet one should be cautious about using the term theory. Theory can be differently categorized depending on its "degree of abstraction and scope" and the way of reasoning: 1) meta-theory (ontology and epistemology), grand/formal theory (e.g. structuralism, functionalism), middle-range theory (e.g. theory of institutional change) and grounded theory; and 2) inductive, deductive, "retroductive" and "abductive" theory (ibid: 109~113, Blaikie, 2007). This section illustrates how ontological and epistemological conceptualisation not only restricted but also underpinned the application of the research strategy throughout fieldwork.

4.2.1. Philosophical underpinning

It is argued that ontological and epistemological issues revolve around almost every inquiry into social reality (Blaikie, 2007). As noted before, the research made a huge effort to integrate complexity theory with the methodological framework, without aiming to elaborate the former itself. Rather, it provided the research with the *phronesis* to dig into the complex reality of the politics of disaster (e.g. discursive and material interactions, interwoven sources of conflict, any causal powers of a political change). Much attention was paid to the occurrence of disaster under which ideas and beliefs (even ephemeral) were employed to reflect on institutions, power relations, and ideational/material impacts of these throughout fieldwork (for example, via newspaper articles).

Before embarking on fieldwork, a simple question was raised: is climate change a single causal force of the increasing number of natural disasters reported (Adger and Brooks, 2003)? Or is it nothing else than socially constructed fear or worry(Demeritt, 2002)? As Sayer (1992: 67) once put it, however, "[l]ike naïve objectivism, idealism collapses thought and its objects together, only the direction of the reduction is different." It is also argued in this thesis that the underlying reality of climate change risks emerges at multiple spatiotemporal scales (Manson, 2008). As one interviewee claimed, however:

> "How the anthropogenic causes and aspect of disasters triggered by a natural event are socially revealed depends on if a critical actor/group is present at the moment and the place where the disasters occur. Otherwise, catastrophes particularly in rural areas

can be concealed. This is why social movement is critical" (NI 2, 2011†)[20].

This interview gave a hint through which to utilise the ontological and epistemological conceptualisations for undertaking fieldwork.

4.2.2. Idealism

The central idea of idealist ontology can be traced back to *Plato*, *Kant*, and presently *Foucault* and *Derrida*. Its adherents believe that the significance of ideas precedes that of materials. They argue that there is no external reality. Castree and Braun (2001: 15-6) persuasively argues that "societies physically reconstitute nature." It is acknowledged that many differing realities of climate change risk are constructed by socio-cultural meaning-giving works, relying on societal categories of class, gender, age, ethnicity and other cultural factors (Blaikie, 2007, Manson, 2008). The point is that reality always needs human interpretation and valuation to become valued. Yet, it is worth noting that "[g]iven that material processes are distinct from our beliefs about them, it shouldn't be surprising to find cases where two or more radically different and indeed incommensurable sets of beliefs have equal practical adequacy" (Sayer, 1992: 79). This argument became relevant during fieldwork. It was witnessed that groups with a different set of rationales and beliefs (see Chapter seven) made one united voice to refute the inadequacy of the naval base construction. Yet, fuller interview access to the groups was sometimes very limited because they were in a tense situation that they could be arrested by the police or the stressed local residents refused to participate in this research (see Section 7.4.1). This meant that the researcher's recognition of a critical moment or event does not always entail full access to the reality. In this case, sources of alternative data, such as local newspapers, were analysed to provide a basis for interpreting the perceptions of local actors in terms of the naval base construction.

Critical realists might argue that the *epistemic fallacy* forces idealists to fail to recognise the difference between (material) production/social facts and (ideational) social construction (Woodgate and Redclift, 1998, Metzner-Szigeth, 2009). Indeed, few social constructionists might entirely deny the existence of material reality although retaining anti-foundationalist epistemology. They can be called as soft or weak social constructivists (Robbins, 2004: 113-6). According to Demeritt (2002),

[20] Hereafter, †= translated by the thesis author

heterogeneous constructionism enables an understanding of how climate change emerges as experienced reality through social activities which include, but are not limited to, natural science without denying the existence of the material reality.[21] This reading borrows ideas from a variety of constructionism and the *Heideggerian* perspective, a combination of realist ontology and anti-realist epistemology (ibid.). It can be otherwise called "agnostic" idealism on the ground that it has less interest in ontological debates than in epistemological ones (Blaikie, 2007: 17). That is to say, climate change is meaningful *only* in the ways that interpreters (or meaning generators) perceive of it as real through inter-subjective societal activities such as communication or social meaning-giving work within social relations. For instance, both Piers Blaikie and Ulrich Beck maintain the soft version of social constructionism for looking into the issue of disaster risk (see Wisner et al., 2004).

4.2.3. Post-realism

It is argued by critical realists that naïve realist ontology-informed positivists fail to recognize the unobservable reality of climate change. They seem to consider only empirical reality as a legitimate research dimension. As alike, the dominance of positivism in Korean academic culture was observed by the research.

Apart from *empirical* and *actual* realties, however, causal reality is seldom directly observable by using human senses and reasoning (rationality), yet has significant structural mechanisms that instigate empirical events and social phenomena (Sayer, 1992). For this reason, "a logic of discovery" is emphasized by critical realism in anticipating the deep structures that intangibly exist (Blaikie, 2007: 83). The concept of three levels of reality was developed in *A Realist Theory of Science* by Bhaskar (2008), but has been further elaborated upon into societal rendering of the same idea, the so-called "critical realism" (Reed and Harvey, 1992, Sayer, 1992, Yeung, 1997).[22]

[21] The concept of social construction of nature is slippery to grasp, and often too narrowly understood. Construction means different to those who intend to use it for their own purposes – either to "refute taken-for-granted-beliefs" or make metaphysical critiques (Demeritt, 2002: 769). In terms of the former case, positivists, critical realists, feminists and Marxists enthusiastically use construction talk. The latter is generally resorted to by social constructionists to raise ontological and epistemological critiques. Hence the term social construction does not simply bring itself to the universally ontological and epistemological conclusion. Differing ideas in various constructionist schools of thought illuminate this point – e.g. phenomenologist, discursive theory, sociology of scientific knowledge (SSK) and Actor-Network Theory (ANT).

[22] Rather than simply epistemological and methodological level, Yeung (1997) argues, it is the ontological level at which critical realism makes its strongest claim. However, it is often misunderstood, even by adherents of it, simply as epistemology or methodology that might result in unnecessary critique "on the basis that it is calling for an ultimate truth or theory" (ibid: 54). The term epistemic

There is, however, unease at the prospect of applying the philosophy of realist science to the loci of societal inquiry. It is necessary to understand that the term critical realism is not invented by Roy Bhaskar, but a combined term of "transcendental realism" and "critical naturalism" (Yeung, 1997: 52). The former transcendental realism is philosophy of science that attempts to scrutinize the complex characteristic of the external world (Blaikie, 2007: 146-9). On the other hand, critical naturalism argues that social problems can be "scientifically" researched – somewhat different from another version of naturalism, that is, positivism, developed by *Durkheim* or *Comte* (see Baert, 1996). To apply philosophy of science in social inquiry, critical realism points out the difference between "transitive" (concepts, theories and models) and "intransitive" (real entities) objects (Blaikie, 2007: 146-9). Put differently, critical realism acknowledges the difference between natural and social reality by highlighting three exceptions that are exclusively found in social world: "activity dependence", "concept dependent" and "spatio-temporally dependent" (Harvey, 2002: 170). Greater accounts of these may be necessary. Yet the gist of the argument is that critical realism hopes to scrutinize the underlying structures that cause social events by importing the ontological perspective from transcendental realism (Blaikie, 2007).

An argument as to whether the reality of climate change is either exclusively fixed or untied to the human interpretation gets easily untenable, due mainly to their extremist positions. Surely a few researchers might support such extremist points of view. This point became clearer during fieldwork when even a hydrologist (RAI 8, 2011) stressed the greater necessity of looking at traditional discourse on water in Jeju for CCA.

4.2.4. Emergent reality

Between material changes in climate and societal changes such as globalization, technical revolution, change in forms of energy, social institutions and (global) population growth (Adger and Brooks, 2003), countless "internal/necessary" and "contingent/external" relationships coexist.[23] Admittedly, the relationship between the mechanisms of climate-change and social system *per se* is not dualistic but

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fallacy comes from Bhaskar's critique of some social scientists confusing ontology with epistemology (ibid.).

[23] The concept of internal/necessary and contingent/external relationship (here, "this sense of contingent is quite different from that common in every day uses where "contingent upon" means "dependent upon"") is developed by Sayer (1992: 89). In the internal relationship, entities, objects and events presuppose each other's existence whereas in the contingent relationship they can independently exist.

internal/necessary insofar as society cannot exist in isolation from nature, and *vice versa* (Woodgate and Redclift, 1998). Some *negativist* scholars (e.g. Weberian social scientists) might go even further to argue that physical scientist's wish to be purely objective when studying the *closed* system cannot be wholly met (Blaikie, 2007: 33). This is so because "experimental closure" is not always possible even in the natural sciences (ibid: 193).

The quantitatively and linearly generalised truth becomes invalid as it fails to see qualitative changes at the level of ontology. While considering environmental or climate change to be a real issue, this research sees reality as spatiotemporally emerging, as a result of the workings of the complex system on various strata of the material, physical, biological and social.

The above ideas informed this research in an important way that complicates the social reality under inquiry, which is the political reflection on disaster. For instance, the ontological condition of conflict or political tension was always put into question: e.g. what entities, be they visible or not, might exist to make the event/subject interpreted as conflict. For example, will the existence of North Korea constitute future local disasters in South Korea? This is just a contextual question. Yet, raising this kind of question was helpful in preventing the research from drawing any conclusions from just what was seen, heard and informed.

4.2.5. Practical adequacy of provisional knowledge: epistemology

Ontological perspectives do not necessarily determine, albeit they may to some extent influence, epistemological positions (Blaikie, 2007). Differently put, the intellectual propensity exists in a way that compatible philosophies are integrated into certain research paradigms – e.g. Positivism (shallow realism and empiricism) and Hermeneutics (idealism and constructionism) (ibid: 26).

This research saw *deep* realism as an ontological basis of complexity theory (Blaikie, 2007, Harvey, 2002). What is then the epistemological foundation of complexity theory? [24] Most importantly, the existence of essences does not necessarily require

[24] Complexity theory is believed to give more ontological foundations to the social sciences than those of epistemology and methodology (Manson, 2009). However, it is possible, if not simple, to outline fundamental epistemological ideas, drawing on literature based on neo-realism and soft version of constructionism.

foundationalism, yet essentialism (Sayer, 1997).. It is argued that complexity theory can be informed by social constructionism, embracing both "[modified] causal explanation and interpretive understanding" (Archer, cited in Sayer, 2005: 5, Fairclough, 2003: 26).

Critical realist epistemology does not totally abandon the empiricist mode of inquiry, yet develops it by employing hermeneutic abstraction so as to reflect the "stratified" world.[25] Among other critical realists, Sayer (1992: 13) points out a couple of dubious beliefs (held mainly by positivists) about the nature of knowledge:

A. Observation or contemplation is the best way to gain knowledge;
B. It is unproblematic to reduce from seeing, knowing to saying;
C. Production and use of knowledge is insignificant; and
D. Scientific knowledge is more important than other types of knowledge such as those upheld by local and traditional institutions.

The fallacy of A and B were briefly explained in the last section. *Scientific* knowledge of climate change itself is produced, disseminated and consumed through inter-subjective social activities (Demeritt, 2002, Sayer, 1997). Therefore, scientific knowledge is but one of many different kinds of knowledge that can be tailored for different purposes (Sayer, 1992: 17). He also struggles with C by accentuating that social practices and knowledge are inseparable (ibid: 43). It is termed as "practical adequacy" or "reciprocal confirmation" between social practices, materially constructed entities and systems of meanings (ibid: 33). Extensive comprehension of divergent social meanings with regard to climate change (e.g. how climate change risk differently means relying on gender, age, culture and religion) serves for nothing unless material realities are together addressed. By the same token, material reality might be less important without social interpretations.

At the beginning of fieldwork, the production of knowledge for climate change and disaster risk in Korea was found heavily premised on the above-critiqued four beliefs – particularly, D (e.g. in the national master plan and the debates at public spheres such

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[25] It is also worth understanding the transition in "practice of theorization" from the quantitative to interpretive approach in economic geography (Barnes, 2001: 546). By theorization, it means molding "the very idea of theory", namely "a series of persuasive, novel re-descriptions" (ibid: 548). While the empiricist mode of theorizing tries to deploy "scrupulous" vocabularies and "ocular metaphors" in order to mirror the external world, the hermeneutic mode of theorization adopts "open-ended interpretation" that does not seek to find out the final, absolute knowledge (ibid.).

as the 3rd International Symposium on CCA in Seoul in 2011 or Water Forum in Seoul in 2012). The member of staff of the UKCIP invited to the International Symposium on Climate Change Adaptation said that the policy and discursive construction in the UK a decade ago also largely hinged on economic and material impacts as Korea do now (personal communication, ISCCA, 2011). Recognising this point made the thesis author reluctant to conduct interviews with the so-called experts in the field.

Second, the central plank of practical adequacy of knowledge is that critical realism does not deny relativism in its epistemological claim even though strong relativism is always skirted (Proctor, 1998). This indicates that critical realists see knowledge of reality as fallible and incomplete (ibid.). The concept of practical adequacy serves as an experimental leverage for producing more suitable *accounts* of entities (ibid.). Hermeneutics also denies "the arrogance of certainty and self-sufficient knowledge" of positivism (Cilliers, 2005 cited in Blaikie, 2007: 212). It is significant to grasp "the role of society in constructing and manipulating knowledge, space, nature, and scale" (Manson, 2008: 778). Consequently, social constructionists argue, "knowledge of complexity is always provisional" (Cilliers, 2005: 259). Interestingly, critical realism and hermeneutics consent that arguing for ultimate truth is untenable.

The two epistemological stances allow complexity theory to enjoy "an epistemological scale continuum", which means that there are various temporal and geographical scales for risks from the impacts of climate change to be dissimilarly analysed (Manson, 2008: 776). Without understanding of a range of scales at which proactive and responsive adaptation to climate change become effective, it might be meaningless to discuss vulnerability to the risk of climate change (Adger et al., 2005, Birkmann and Teichman, 2010, Burton et al., 2012, Neumann, 2008). This idea allowed fieldwork to pay more attention to multiple levels of politics at which various claims were made, challenged and mediated of material and constructed disaster risk.

Complexity theory owes its conceptual richness to many hitherto perspectives: the concept of synergy effect from *Aristotle*, self-organization from philosophy of organism, concept of feedbacks from cybernetics, and flows of entities from systems theory (Manson, 2008: 72). Yet, this is both a strong and a weak point of complexity theory. The challenge is to transcend the sum of its theoretical parts without losing the

logical power of each. One of possible tasks to take is to avoid extremist claims of reality and knowledge of it (McLaughlin and Dietz, 2008). Manson (2008: 785) also points to the importance of "communication among differing epistemological positions" in search of "a balance between accepting seemingly apparent scales of observation and explanation and recognizing their purposeful construction of social, economic, and political ends". In addition, "modest" rather than "self-confident or assertive" accounts of the nature of knowledge are argued to be helpful to understand the complex world (Cilliers, 2005: 256).

The above claims, however, need be considered in local contexts. For example, communication among different epistemological positions is less easy for society where the construction of policy and policy-making processes are closed and centralised towards a small group (NI5, 2012). Some initial interviewees who were expected to play a key role in the field of CCA were reluctant to express any political view, and strongly required to remain anonymous in this research, refusing to have their interviews recorded. This was a constraint on the quality and type of data that could be collected. In addition, as some informants insisted (NI 5, 2012), researchers working for government-affiliated research institutes tend to be reluctant to share information if these have the potential to induce a controversy. This also made fieldwork challenging as explained in the following section.

4.3: Methodology

This section accounts for the design of research methods and the implementation process from which key implications for further research of disaster politics can be drawn. It is also important to spell out the gap between initial aspirations of the research and the challenges of data collection faced during fieldwork, and how it was overcome. Then explanation of how the data were analysed follows. This section concludes by discussing the issue of research ethics.

4.3.1. Contingency in the lack of contextualised information

This research is among the first academic endeavors to scrutinize the theoretical and empirical linkages amongst politics and disaster risk in the context of the post-developmental Korean state. As can be seen in previous chapters, no academic research (to the thesis author's knowledge) has examined the case of Korea for the given themes with a historical and integrative perspective. In this regard, a research site needed to be carefully chosen.

This research chose Seoul and Jeju as a research site. As a matter of fact, until the upgrade examination in 2010, the research had paid less attention to the case of Seoul. The pilot study (based on reviews of grey literature and Internet searched materials) indicated that Jeju seemed very vulnerable to the risk of climate change and hazards. As the examiner for the upgrade exam rightly pointed out, however, limiting a research site to Jeju had problems. On one hand, the island has been relatively outside of the core current of compressed development, thereby offering a weaker rationale for examining dual-risk and compressed development. On the other hand, the existing literature indicated Seoul as a more suitable research site for examining risk implications of development, due to the greater extent of urbanization and the hyper-centralisation phenomenon in political, economic, educational terms (Choi, 2010).

Lacking background knowledge and contextualised information of the themes in Korea, the research immediately confronted another question. Can public awareness of the themes in particular localities (for example, on newspaper articles or by local governments) be used as evidence to judge the potential availability of empirical evidence and data? A possibly plausible answer to this question was offered during fieldwork: it was critical to recognize the context in which such a claim of greater awareness of climate change risk had been made. The hidden motives behind such a claim can be identified within both discursive and empirical space, in which different groups embody their core ideas such as development visions, ideology and worldviews (see the section for social innovation in Chapter four). A typical example is the FRRP for which the uncertainty of climate change was *certainly* emphasised to reinforce the vested rights rather than address local vulnerability to risk and hazards, as demonstrated in Chapter five.

In addition, fieldwork enabled the capturing of the significance of previously *unexpected,* emergent events. The fieldwork plan did not anticipate the occurrence of the MT *Woomyeon* landslides crisis and the change of a mayor in Seoul in 2011. It was also unforeseen that the research focus would be directed towards the naval base construction in Jeju. The latter case accidently happened as a result of carrying out interviews with local informants as the snowballing sampling technique anticipated (NI 11, 2011, NI14, 2011).

4.3.2. Searching for locally contextualised inquiries to disaster risk

Certainly, the issue of climate change is new to public debates in Korean society; yet there is another reason for the lack of contexualised information on the issue of CCA and DRR in Korea. It is the ways in which research on an unfamiliar issue almost exclusively rely on Western scholarship.

Among others, Kang (2004: 253) claims that "[t]here is no South Korea in South Korean Cultural Studies", due to "the colonial condition of knowledge production." This is a bit of an exaggerated claim; yet it is true that a majority of research on climate change and disaster risk in Korea tends to "import" theories, concepts and research approaches directly from Western scholarship (Kim, 1989, Kim, 1994, Ho et al., 2003, Chung, 2004, Kang et al., 2009). Informed by positivist and functionalist theory, these studies assume that the issues of climate change and disaster risk are simply apolitical.

Of course, the current research is not wholly free from this criticism, given that it employed Western derived concepts and theories such as resilience, social innovation, and most apparently the Risk Society thesis (see Chapter two). The point is that the research tried to elaborate the preliminary research questions further in light of the local context, yet this was very challenging. Partly because of the marginality of disaster risk policy in public discourse (see Chapter five). Grappling with this situation, fieldwork spent far longer (six months) searching for materials in national and local libraries, in pursuit of understanding the history of disaster in Korea. It is necessary to note how the preliminary research questions made pre-fieldwork were modified. These were:

A. How have changes in the key institutions since the financial crisis shaped social vulnerability and adaptive capacity for CCA?

To fully answer this question, it was divided into following sub-questions.

a-1. How have the roles, responsibilities and political power of the state, NGOs and Chaebols changed in addressing natural hazard and climate risk over the last decade?

a-2. What is the underlying logic behind the recently proclaimed paradigm "Low Carbon Green Growth"?

c-1. Did typhoons Rusa in 2002 and Maemi in 2003 lead to any "critical junctures" for institutional and political changes – if yes, to what extent, in what ways and by whose participation?

B. How do social organizations strike the balance between coping ranges (exploitation) and social learning (exploration) for CCA and HRR (Hazard Risk Reduction) in Jeju?

b-1. What factors are perceived to be crucial by stakeholders for dealing with vulnerability to the risk of climate change and natural hazards?

These questions have not completely changed since the research has still dealt with the interlocked relationship between politics and disaster. The critical moments for the research came when the occurrence of: 1) the landslides crisis and following political change coincided with the interview with the environmental activist who was deeply involved in the aftermath of the landslides crisis (NI2, 2012); and 2) the interview with N 11 (2011), due in part to the cancellation of planned interview with a potential informant who was imprisoned on the day for the interview (see Section 4.3.1 and 7.4).

In particular, the MT *Woomyeon* landslides crisis enabled the research to reconsider question A. Of course, no assumption was previously made that rich groups would be less vulnerable to disaster risk. Yet, the impacted areas were one of richest *Gangnam* in Seoul. In addition, more visible than in other urban disaster cases was the somewhat serious claim made to associate the cause of the disaster to the incumbent local authority's maladministration, such as a sharp cut in the budget for disaster reduction and the preceding year as a missed opportunity to prepare for potential crisis (see Chapter six). Accordingly, the focus of this aspect of the research was changed, from the shaping of vulnerability to political reflections on disaster. In addition, the question c-1 was replaced to look into the MT. Woomyeon landslides, as access to data of political reaction to the typhoons *Rusa* and *Maemi* was very limited.

Throughout fieldwork, it was apparent that the ways of positioning the researcher in a research site lead to very different outcomes. To closely observe the situation of Gang-jeong village and the oppositional camp (see Chapter seven), one of my interviewees suggested the researcher provide labour by helping to prepare meals and washing dishes for recruiting potential interviewees for a day. This suggestion was helpful in making a sense of closeness with the oppositional groups and more deeply understanding their various reasons for opposing to the naval base construction. Together with the issue of contingency (Section 4.3.1), it confirmed that this research

was a result of continuous interactions between the researcher and the researched (as well as the observed), and the theoretical framework and empirical evidence.

4.3.3. The implementation of a multiple-case study

It was inferred that a multiple-case study would help elaborate the dual-risk thesis in terms of disaster triggered by natural hazards. Then what is the rationale for a multiple-case study in different local contexts within a country? It was never intended to make any universal explanation of dual-risk for which quantitative comparative strategies might better serve. In addition to this, Hopkins (2002: 254) emphasises another reason for conducting a case study, which is to "assess the validity of our interpretations of specific or even unique political phenomena."

The aim of the research was not to simply compare two cases – Seoul and Jeju – but to elaborate the dual-risk thesis that was previously applied to only national politics in terms of manufactured risk (Han and Shim, 2010, Kim, 1998). This research intended to infer and explicate the dual-risk thesis, in terms of political responses and social construction of risk of disaster triggered by natural hazards at the sub-national level. In other words, to question how the previously apolitical issue (natural disaster/climate change) had become political in Korea. Doing this required the further problematisation of the localisation of dual-risk, in light of their particular social fabric, political relations, discourses, and local history. Indeed, this is exactly why the approach to carrying out a multiple case study takes "holism" (Ragin, cited in Hopkins: 261). It also scrutinises the social reality under inquiry, "within their contexts, looking at the cases as "wholes" (complex combinations of variables)" (ibid.).

With the above comments in mind, this research employed "retroduction" as the primary research strategy (Blaikie, 2007: 83). This is a cyclical process that directs research to examine objects, structures (or causal mechanisms of political reflections) that are initially presumed to exist as well as how they are understood and interpreted by social actors (ibid.). Retroduction is made up of two processes: 1) the building up of a hypothetical model of structures and causal mechanisms by iterative abstraction, this research achieved this by borrowing from existing research and theory (Kim, 1998, Han, 1998, Han and Shim, 2010); 2) to verify or refute the hypothetical models validity. This two-way thinking continued during the whole process of the research.

In the context of this research, a model means more than "an integrated set of propositions that state relationships between various concepts" (Blaikie, 2007: 83). Instead, as Harré (cited in Blaikie, 2007: 84) puts it, "models are pictures and images that are intended to represent an explanatory mechanism." Although retroduction can generally be started by "a logic of discovery" (ibid.), this research did not intend to explore new structures. It was still meaningful to "exhaust the explanatory capacity of known types of structures and mechanisms before launching too far into the difficult territory of discovering new ones" (ibid.). The thesis borrowed complex, multiple accounts of such structures (dual-risk thesis, the theory of institutional change, social capital and environmental risk). The main task was then not only to identify such theoretical positions but also to integrate these in a meaningful way in order to help better examine how groups with different ideas, logics and values compete to either maintain or transform the dual-risk structures accounted for by the theories.

A case study itself is not a research method. Rather, it is a strategy for developing in-depth knowledge about one or a small number of cases by employing a range of research methods (Robson, 2000: 40). The methods employed for this research include observation, interviews (and transcripts) and document analysis. What combination of methods helped examining the cases chosen for this research? This question is inevitably linked to the aims and research problems – amongst descriptive, exploratory, and explanatory – of the research (Yin, cited in Grix, 2004). Given that the main intention was to explore the process of political and discursive changes under disaster risk, key informant interviews, reviews of secondary sources and archival research were the primary data collection methods. Thus this qualitative research searches for the depth and difference of ideas, feelings and experiences of human beings to the given issue, rather than merely looking for regularity or generalisation of social phenomena. The latter in this research is simply a starting point, to accept the existence of dually structured risk, and then study the various ways in which dual-risk is felt, understood, experienced and critiqued.

At an early stage, the fieldwork took semi-structured interviews and document analysis as the main method techniques to collect data to reveal informants' ideas, values, relationships, experiences, roles and information regarding the issue of DRR and CCA (see the preliminary research questions in Section 4.3.2). As explained before and in

Chapter six, most respondents were reluctant to express strong views to the issue of climate change and hazards. This problem led to a change in interviewing strategy with greater use of unstructured interviews (with less emphasis on the issue of CCA) to assure the informants of the uniqueness and worthiness of their expressions and opinions.

Sampling is essential for any research. The population from which samples can be selected are people, but also situations, events, time and any combination of these. Since this research did not seek to produce universal laws, the research applied non-probability sampling. In particular, a purposive snowball-sampling tactic was employed. This was especially because social organisations at the local level were less visible than those at the national level. The criteria for sampling were clear (relevance to the social reality under inquiry, for example in the case of people their occupation, academic interest, residential area and experience of disasters). After the research focus changed (see 4.3.2), snowballing sampling became more useful because of previously developed relationships with the informants (particularly in Jeju). Silverman (2010) poses a question as to how many interviews might be sufficient for PhD research. He then goes to note that:

> [it] depends upon your research problem…many qualitative researchers use purposive sampling to choose a case because it illustrates some feature or process in which we are interested. This does not provide a simple approval for any case we happen to choose. Rather, purposive sampling demands that we think critically about the parameters of the population we are studying and choose our sample carefully on this basis" (ibid: 193)

Indeed, it is up to the researcher to judge a saturation point at which no more data are beneficial for addressing the research problem. The current research probes into three cases of discursive space, in which often implicit and conflicting ideas and responses to risk coexist. The point of data saturation came when the researcher was no longer gaining new information about the tension between the status quo and critical consciousness in the three arenas of disaster politics.

In addition, there were few interviewees with whom the researcher was able to discuss the issue of climate change. For this reason, a decision was made avoid using jargons or technical terms regarding the issue of climate change for an interview; yet more

familiar terms. The identity of interviewees remained anonymous in this research. This was to protect the informants from any possible disadvantage that might be incurred by the research. Instead, their organizations, main roles and speciality are noted in the following table. Sometimes, they were found to take more than one role, for example it was usual for academics to join NGO activities. In this case a respondents main source of income has been selected to make their abbreviations.

Table 4.1. Abbreviation for interviewees for each group and observation:

Abbreviation for the interviewees and conferences	Organization or occupation	Location and time for the interviews	Specialty/main activities
1. NI 1	The RCK (Gyeong-gi)	Suwon, 21/July/2011	Disaster relief and humanities
2. RAI 1	Former staff of the RCK and professor of disaster risk reduction	Seoul, 2011	Disaster relief, social capital
3. RAI 2	The Korean Adaptation Center for Climate Change (KACCC)	Seoul, 11,13/October/2011	Climate change adaptation
4. NI 2	Korean Federation for Environmental Movement (KFEM)	Seoul, 09/June/2012	Environmental issues in general
5. RAI 3	Professor of crisis management	Chung-ju, 08/June/2012	Crisis management
6. BI 1	LIG insurance	Seoul	Car insurance
7. NI 3	Young Foundation, former staff of the hope institute	London, 08/March/2012	Social innovation, civil participation
8. NI 4	The Climate Change Centre (CCC)	Seoul, 03/July, 2012	Climate change
9. NI 5	Institute for Climate Change Action (ICCA)	Seoul, 10, 23/April, 2012	Climate change
10. NI 6	The Hope Institute	Seoul, 07/June/2012	Civil participation
11. NI 7	The Hope Institute	Seoul, 07/June/2012	Civil participation and climate change
12. GI 1	The National Emergency Management Association (NEMA)	Suwon, 16/June/2011	Disaster risk reduction
13. NI 8	The Loving Centre for Disaster Victims (LCDV)	Seoul, 25/September/2011	Disaster relief
14. LGI 1	Yeongdeungpo-gu	Seoul 23/06/2012	Disaster risk reduction
15. LGI 2	Yeongdeungpo-gu	Seoul 23/06/2012	Migrants
16. RAI 4	A senior member of KACCC	Seoul	Climate change adaptation
17. LGI 3	Officer in charge of adaptation to climate change (Seoul government)	Seoul	Climate change adaptation
18. RAI 5	Professor of Senile Welfare	Yong-in, 09/April/2012	Welfare
19. RAI 6	Green Technology Center Korea	London 04/03/2012	Green technology
20. NI 9	The RCK (Jeju)	Jeju, 31/08/2011	Disaster rileif
21. NI 10	Jeju Solidarity for Environment and Participatory Democracy (JEPD)	Jeju, 08/September/2011	Environmental issues in general
22. NI 11	JEPD	Jeju, 1, 29/09/2011	Environment and development

23. LRI 1	Gangjeong village	Jeju, 04/October/2011	
24. RAI 7	Jeju Development Institute	Jeju, 02/September/2011	Climate change adaptation
25. RAI 8	Jeju Development Institute	Jeju, 02/Sep/2011	Water resource
26. NI 12	The RCK Jeju	Jeju, 09/September.2011	Disaster relief and volunteering
27. RAI 9	Professor of architecture	Email, 12/Feb/2012	Urbanization
28. RAI 10	Professor of environmental sociology	Jeju, 19/09/2011	Environmental sociology
29. NI 13	Asia Climate Change Education Cnetre	Jeju, 05/09/2011	Climate change
30. NI 14	KFEM (Jeju)	Jeju, 07/09/2011	Environmental movement
31. MI 1	English Teacher and Amateur photographer (American)	Jeju, 04/October, 2011	Photography
32. LGI 4	Disaster and Safety Management center (Jeju)	Jeju, 23/09/2011	Disaster risk reduction
33. LGI 5	Disaster and Safety Management center (Jeju)	Jeju, 23/09/2011	Disaster risk reduction
34. LGI 6	The Jeju Provincial administration	Jeju, 25/09/2011	Environment and climate change
35. LRI 2	Female diver at Jeju	Jeju, 03/Sep/2011	Diver
36. NI 15	Editor of newspaper	Seoul 25/06/2012	Journalist and migrants (Korean Chinese migrant)
37. AKSHM	The 10th Anniversary of the Korean Society of Hazard Mitigation	Seoul 26 November 2011	Hazard mitigation
38. GVC	Gangjeong Village Cultureal Festival	Jeju October/2011	Opposing to the naval base construction
39. DRCSGS	Disaster Relief, Civil Society and Global Solidarity	Seoul 13~14 July 2011	Disaster relief
40. WF	Water forum	Seoul, 04/April/2012	Water resource, floods
41. ISCCA	The 3rd International Symposium on Climate Change Adaptation	Seoul 20/09/2011	Climate change adaptation
42. HI	Hope institute 5th year ceremony	Seoul, 19/May/2011	NGOs, social innovation

Notes: Government: **GI**; Local Government: **LGI**; NGOs (both national and local): **NI**; Research institutes and academics: **RAI**; Business: **BI**; Local Residents and community-based organizations: **LRI**; Migrant workers and marriage migrant women: **MI**.

Official and grey documents such as white papers, research reports, newspaper (including online newspaper), and minutes of public hearings were also collected to later crosscheck the findings of the interviews. For example, when some local

informants claimed that their community was not prone to natural hazards (which was the case in Jeju), this claim needed to be checked with statistical data or news articles of the trends, losses and damages from disaster. In addition, newspapers' comments on the same issue (e.g. the FRRP) were not the same in tenor (e.g. conservative versus progressive).

It was difficult to get access to the victims and their families of the urban landslides or the villagers at *Gang-jeong*. Alternatively, TV documentaries on the issues (Chung, 2011, Gangjeong naval base crisis) and interviews with activists provided descriptions of the severe situations of the crises. Instead, fieldwork focused on finding out about any evidence showing that disaster risk was taken as part of the rationale of opposition to the naval base in the case of Jeju. It was also considered that theory-neutral observation was not possible (Bryman, 2012). At the same time, however, during either interviews or observation fieldwork was always in pursuit of looking for new information or novel interpretation of the social reality beyond the prepared theoretical framework. For instance, drawing attention to the case of naval base was an outcome of taking this approach.

Almost every interview was recorded and fully transcribed. A smartphone was used to record all the interviews. A record of one interviewee was accidently deleted; in this case immediate transcription with the help of memos made during the interview was done.

4.3.4. Analytical problems

Primary data from interviews, documents, news articles (clipped), field notes and TV programmes was collected during the first fieldwork trip in October 2011. After this data had been coded for analysis, it became clear that the data collected was insufficient to achieve the research objectives, and this led to a second fieldwork period of three months from April, 2012.

After the second fieldwork, data were coded for analysis again. The scripts were not cut and paste. Instead, different colored pens were used to mark important concepts/sub-themes (e.g. theme: critical consciousness of disaster, red: local authority critique, blue: Law critique, yellow: culture critique, and green: hazard critique). When searching for themes, particular attention was paid to Bernard's (2003, cited in Bryman,

2012: 555) recommendations about what to look for. These include; “repetition” of similar topics, “indigenous typologies” (local expression), the use of “metaphors”, “similarities and differences” (interviewees’ ways of debating a topic), “linguistic connectors” (because or since), “missing data”, and “theory-related material.” Meanwhile, it was very important to remember the logic of “retroduction” (see Section 4.3.3) to verify and refute the theoretical framework of the current research. For example, the thesis author continued to read both coded data against the literature review of the thesis and new journal articles. In addition, it was possible to contact the interviewees quickly and ask them about any uncertain meanings or expressions via Facebook or Social Network Service (SNS). Some interviewees offered new information about a local government initiative to foster DRR, for example, discussing the new life risk governance programme that was being debated at the time (RAI 1, 2011).

4.3.5. Translation and Romanisation problems

During fieldwork and writing-up, the issue of translation or semantic compatibility between Korean and English terms was often non-trivial. Jeju people use their own dialect between themselves, and the difference between their accent and local idiom and that of standard Korean is probably far larger than, for example, that between standard British English and Scottish English. Nevertheless, all interviewees from Jeju are familiar with standard Korean and they all used it during interviews, so there were no issues with inter-dialectical translation. Importantly, there were several issues relating to translation between Korean and English concepts that arose during interviews and analysis. This was by no means surprising given the different histories, cultures, and institutions in English speaking countries and Korea. Some examples should be discussed below.

First, interviews with some local activists indicated that the use of the term ‘development’ is not straightforward in Korea, where the term development has a particular historically contexualised meaning, especially to progressive activists and opposition parties, and this has to do with the history of compressed development led by authoritarian regimes. Consequently, the term ‘development’ is often combined with or used in conjunction with ‘dictatorship’; in ‘development dictatorship.’ Thus, for many of the activists and members of the opposition interviewed, as for many others in Korea, ‘development’ is likely to evoke negative connotations related to the

country's previous dictatorships, unless it is qualified by a specific modifier. This issue did not have a significant impact on the interview processes, although it sometimes upset some interviewees requiring a delicate interview technique (NI 11, 2011, NI 14, 2011).

Another issue was that of Romanisation. The Internet-based Romanization tool produced by Pusan University was as used (http://roman.cs.pusan.ac.kr) when Korean terms needed be to Romanised: for example, the names of people, places, political parties and so on, as well as the titles of Korean materials in the reference list of this thesis.

The third issue here is related to the first, but was more profound. Simply, it is often not possible to provide a simple English term that accurately captures particular meanings, expressions, positions in organizations, social relations (for *Gwon-dang*, see Chapter seven) and many other terms that are only meaningful in Korean or even sub-national local contexts. This issue is more noticeable in interviews with Jeju people. For example, the term *Sindang* was translated to a shaman temple for worshipping local gods in Section 7.3, but it would take a number of English words or even a paragraph to properly describe the Korean term. This issue was even more complex for the Jeju term *Gwon-dang*. However, simply using the translation 'shamanistic temple' is not completely accurate, because *Sindangs* exist in hundreds forms and for numerous purposes in rural areas of Korea. Consequently, translation is neither easy nor completely accurate.

Similar problems exist when translating some English terms into Korean. An important issue here was that of how to translate 'hazard', which is one of most important terms for this project. The definition of hazard employed in this thesis is discussed in Box 2.1, however, if defined in this way there is no proper Korean term for hazard, strictly speaking. Typhoons, earthquakes, and heavy rains can be called hazards in English because they all have *the potential* to harm individuals (Pelling, 2003c). According to the Oxford dictionary, the first enumerated definition of hazard is 'a danger or risk', yet with a sub-definition of 'a potential source of danger' as in Box 2.1 (see http://oxforddictionaries.com/definition/english/hazard?q=hazard).

Although the Korean term (*Jaenan*) for 'typhoon' comes close to this definition of 'hazard', as meaning a natural event or phenomenon, there is no common or generic Korean term that can be routinely employed to denote the potential to harm. In fact, among experts of disaster and crisis in Korea, the difference between hazard (potential) and disaster (outcome) is made and informed (RAI 3, 2011). Yet, these two Korean terms have been used rather interchangeably to indicate the outcome of hazard (*Jaenan* and *Jaehae*). According to the National Institute of the Korean Language, *Jaenan* means an 'unexpectedly occurred calamity and hardship', while *Jaehae* means 'harm resulting from calamity; harm resulting from earthquake, typhoon, flood, draught, tsunami, fire, and infectious disease' (http://stdweb2.korean.go.kr/search/List_dic.jsp†). Both refer to the outcome; the criterion to divide them is not the potential but the predictability (actor-driven).

Based on the division, natural and man-made *Jaehae* makes sense in a similar way to that in which 'disaster' does in English (harm caused by both natural and technical factors). Yet, can *Jaenan* be translated into 'hazard' without modification?

The answer is no; because *Jaenan* refers to an outcome, not a potential. It should be noted that if we want to convey the original meaning of hazard in translation into Korean, it is better to use the term 'natural phenomena with potential harm'. At least until *Jaenan* is both routinely and institutionally used as meaning *potential* harm. There is not enough space for a fuller debate on this issue. However, there was much debate about this issue in Korea, because the confused use of the terms had led practical problems, for example, the inadequate separation of organizational responsibility for natural and man-made disasters. This is summed up by one of my interviewees:

> "in the past it was far harder for government officials to cooperate. "That is a natural disaster, so it's your duty!", or visa versa. So funds remaining in one side could not be used for the other…Arriving in the 2000s, many scholars demurred and in 2003 hot debate arose. Then, I also strongly argued, [but] there are scholars who argue for the unity of term to natural Jaehae. They used to manage natural Jaehae and Jaenan [man-made] management in the past, their claim is also plausible. Looking at one side of the issue, according to the sixth clause of Article 34 of the Constitution, "the nation should prevent Jaehae and protect the life and property of the people from Jaehae." [They argue] "you know it is Jaehae in the

> Constitution?" Well [my] refutation of this is that "then did those who enacted the Constitution believe that we can prevent typhoon itself?", isn't it? How can we prevent the occurrence of typhoon? Saying "what the lawmaker meant was to prevent harm from natural Jaenan, not natural Jaehae – the physical phenomenon - itself", we persuaded them. And instead, we proposed to call physical phenomena as Jaenan and define the outcome of Jaenan as Jaehae…so when establishing the Basic Act on Jaenan and Safety management, this proposal was accepted" (RAI 3, 2011, parentheses added†).

Consulting the *Basic Act on Jaean and Safety Management*, it is clear that this account of the terms is partially true. *Jaenan* is defined as "what harms or is likely to harm the life, body, property and the country" (see http://www.law.go.kr/lsInfoP.do?lsiSeq=129310&efYd=20130423#0000†). At the same time, however, the three sub-definitions of *Jaenan* still include 'harm' (as outcome) or even *Jaehae*. *Jaenan* means:

A. *Jaehae* that results from natural phenomena such as typhoon, flood…
B. Damage that results from fire, collapse…
C. Damage that results from energy, communication…

Clearly, the use of terms in the law is rather complicated. According to the *Natural Disaster Countermeasures Act*, *Jaehae* is 'harm or damage resulting from *Jaenan*' (see http://www.law.go.kr/lsInfoP.do?lsiSeq=129308&efYd=20130423#0000).

This research project argues that this complexity in the use of terms stems from the dilemma produced by the coexistence of old and new perspectives in the discourse of disaster. Here the traditional perspective is premised on the strong belief that denies human and social contribution to so-called *Natural* disaster. On the other hand, the new perspective (also see the above passage) acknowledges that the outcome of disaster can result from both natural and man-made elements. This research project takes the view that the socionature thesis and dual-risk thesis together can help ease this dilemma. In addition, this dilemma is exactly where the two theses can meet to mutually learn from each other. However, given space restrictions, this debate is put aside to Chapter eight. The point is that there is not a wholly satisfactory term in Korean to convey the 'potentiality' or 'not-yet-happened harm' aspects of 'hazard'.

The reason why much space is devoted to description of culture, history and politics of Korea in the empirical chapters is also partly to articulate "the contextual uniqueness and significance of the aspect of" Korea by which to question the "transferability" of the findings of this research to other milieus (Bryman, 2012: 378). As Searle argues (1995, cited in Hodgson, 2006: 13), "language is the basic social institution in the sense that all others [other institutions] presuppose language, but language does not presuppose the others." This means that translation of what is uttered, said, and argued in Korean into other languages requires extra caution and care. Methods and methodology textbooks rarely point out this. Moreover, the final issue at stake in translation relates to the English proficiency of the researcher. Therefore, rather than merely relying on dictionaries, the researcher discussed important questions of translation with bilingual Korean British in London in order to make sure translations were accurate.

4.3.6. The relationship of the author with the researched: mutual influence?

In Blaikie (2007: 11-12)'s term, during the whole process of data collection the researcher was in general an "outsider", an evolving "learner", and "on people" that means that the interviewees remained as "respondents" rather than becoming "clients" or "partners". At some points, the researcher happened to build close relationships with research subjects, for example when more than one interview was conducted with the same interviewee or when the researcher joined in events such as a local cultural festival (see Table 4.1, 38). Blaikie also claims that the researcher can contribute to "the emancipation of oppressed groups" (ibid: 12). This research did not aim at this, although it is hard to know precisely what impact the data collection process in general had on the interviewees. After the interview with RAI 3 (2011), the author was invited to the conference on national crisis management, and presented a short paper written in Korean. This may have had a bearing on the participants in the conference.

A Jeju provincial government official in charge of planning for the provincial CCA plan refused an interview request because she believed her interview would not help the research. When introduced to the topic of the research, she replied, "Why is Jeju vulnerable to climate change!?" Except for refusing to be interviewed, she was willing to help with the provision of official documents through the Korean Public Disclosure System (https://www.open.go.kr/pa/html/eng_main.htm). In general, interviewees

contacted for an interview were generous, although they were reluctant to believe that the interviews could be helpful.

4.4: Research ethics

Two ethical approvals were secured before each fieldwork trip; therefore the researcher understood the aspects of ethics essential for interviewing people. Four points are underlined in this section; harm to participants, informed consent, invasion of privacy and deception (Bryman, 2012: 118).

Potential harm, not only to those interviewed but also to the researcher, was carefully considered before the interviews. In almost every case, the interviews were carried out in a public place during the day. Particularly during the fieldwork in Jeju, the tense atmosphere that resulted from the police staying in Gang-jeong village made the researcher slightly worried, but no serious conflict or violence occured except for some tussles between the police and demonstrators.

Informed consent is the most important part of social science research ethics. Before commencing the fieldwork, business cards were made. This was one of the efforts made to provide the participants in interview with as much information about the researcher as possible. In addition, information about the current research (objective, aims, rationale, the expected completion date, etc.) was offered to them. The researcher never forced or pestered potential interviewees to participate in the research. Nor was any monetary compensation promised for participation or disadvantage intimated for refusal of participation. Some government or government-affiliated researchers did permit their interviews to be recorded, in which case the smartphone used for recording was turned off. Instead, fieldwork notes were taken. It was possible that emerging data could contain sensitive information, in which case the issue was to ensure that potential impacts on the participants could be removed. Therefore, all participants remained anonymous in this research to avoid the possibility of potential harm. All consent was acquired via verbal consent. Every effort was made not to commit invasion of privacy (covert method) and deception. However, it was not possible to for researchers to fully avoid this issue. For example, even with the acquisition of consent it does not necessarily follow that there will be absolutely no invasion of privacy (Bryman, 2012: 124). Deception occurs when the researched is either wrongly informed or uninformed about the nature of the research they partake.

4.5: Conclusion

In this chapter, the ontological, epistemological, methodological and analytical concerns were discussed. Informed by a realist ontology and a constructivist epistemology, this chapter has shown how and why the research methodology (qualitative + retroduction) was been applied to achieve the research objectives. Non-trivial challenges as well as new opportunities arose during fieldwork.

The gap between initial aspirations pre-field work, and the reality during and after fieldwork was wider than expected. This was only natural since a lot of new data – more precisely unanticipated disaster events – occurred during fieldwork. In the case of Jeju, the pilot study identified an increasing awareness of climate change risk in public discourse, mainly through the review of Internet news articles. Again, it was found that NGOs and the local government in Jeju were less interested in or aware of the given issue than the pilot research assumed. Instead, the researcher decided to draw the implications of the naval base construction – the issue that captured local governance stakeholders' concern and interest – for local vulnerability to dual-risk. Another contingency issue came during fieldwork in Seoul when the Mt. Woomyeon landslides occurred. One of most important findings is that researchers of disaster, particularly those who examine the structure-agency and disaster nexus, should be open to naturally occurring data.

In addition, this chapter has thoroughly discussed how translation from Korean to English challenged the researcher from the beginning of fieldwork to the analysis of the data. The chapter has also addressed in more detail the sampling tactics, tools for coding data and generating themes, and the positionality of the research. Finally, the chapter addressed the issue of research ethics. Future research into emerging risk and hazard will require applying a combination of diverse logics of discovery and research methods. This is because the unfolding aspect of risk in contemporary society becomes more complex as social responses evolve.

Chapter 5: The post-developmental state as dual-risk society

5.1: Introduction

This chapter critically reviews how the recent development paradigm in Korea (the Low Carbon, Green Growth strategy, hereafter LCCG) and its subset projects (e.g. the Four Rivers Restoration Project, hereafter FRRP) exploited the perceptual importance of nature as a source of future risk in order to maintain the status quo. At first, the government initiatives prevented experimental/critical thoughts from emerging in a bottom-up fashion in various ways. One of the main points here is that as a consequence of the Cold War, ideological enmity has had a significant impact on the health of the public sphere in Korea. While not entirely suppressed, the public sphere curtailed to the extent that it might not function as a space through which the generic level of resilience attained throughout compressed development can be transformed to hazard-specific resilience. Little is known of how discursive distortion influences the potential of social innovation for environmental risk reduction. Informed by the theoretical framework in Chapter three, this chapter synthesises various ideas and discourses on development and risk.

In Section 5.3, this chapter discusses how changing risk perception has been dealt with in the governance space of the government and NGOs. The wide perception and reality gap will be also pointed out. Section 5.4 looks closely at the narrative competition over redirecting the developmental path of the country. In particular the discursive distortion and the use of ideological tension for keeping disaster events apolitical will be discussed. The ideational competition over the issue of FRRP that occurs at various levels of ideas will also be discussed. In conclusion, it will be made clear that the idea of dual-risk needs be applied to various types of risk, including the risk of disaster triggered by natural hazards.

5.2: The increasing perceptual importance of nature as a source of risk

Risk perception in Korea is argued to have changed over the decades – particularly after the incidence of then *unexpected* urban catastrophes such as the collapse of *Sampoong* Department Store in 1995 (killed 502) and *Sŏngsu* Bridge over the River *Han* in 1994 (killed 32) in Seoul (Han and Shim, 2010). These urban disasters were enough to damage the self-confidence the country had had in *the Miracle on the Han River* – rapid industrialization and urbanization from 1960s until that point.

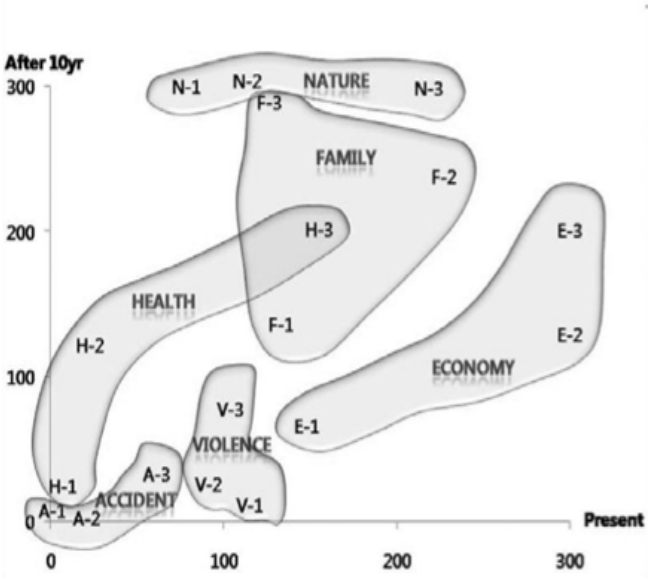
5.2.1. Risks perception

Two nationwide surveys conducted in 1999 and 2007 probe the perception of public risk in Korea (ibid.). The questions and ways of asking them for the two surveys differ so that it should be cautious about jumping to a comparison about the changing risk perception as the authors acknowledged (ibid: 486). Nonetheless, the comparison of findings of the two surveys has significant implications for the current thesis.

In the earlier survey, fraudulent construction, traffic accidents, and corruption were perceived to be the most serious risk threats to Korean society. This is hardly surprising, because the government's post-disaster investigations into the above disasters revealed that bribery and corruption regarding the fraudulent construction of the collapsed buildings were the major causes. This is but one case illustrating how socio-political underdevelopment can cause catastrophic urban disasters in Korea. More than two decades on, as will be clearer later on this chapter, disaster risk resulting from this kind of endogenous governance failure in society is still prevalent.

The 2007 survey suggests a different perception of public risk, as summarized in Figure 5.1. The horizontal and vertical axis refers to the intensity of the current perception of present risks and forward-looking perception of future risks respectively. The respondents believed economic (E2) and occupational risk (E3) to be the most threatening at that time (2007). Rather intriguing is that they expressed the risk of natural disaster (N-1), climate change (N-2) and environmental pollution (N-3) as being the most serious threats in ten years' time (2017).

Figure 5.1. Risk plotting within Korea (2007)



A: Accident E: Economy
F: Family H: Health
N: Nature V: Violence
A-1: fire, A-2: building collapse
A-3: traffic accident
E-1: loss of credit, E-2: bank crisis
E-3: unemployment
F-1: family disintegration
F-2: infiltration of privacy
F-3: uncertainty of aged life
H-1: epidemic disease
H-2: new disease
H-3: adult disease
N-1: natural disaster
N-2: climate change
N-3: environmental pollution
V-1: campus violence
V-2: sexual crime
V-3: violent crime

Source: Adopted from Han (2008, cited in Han and Shim, 2010: 478)

It is difficult to judge from the two surveys why public perception of risk has altered in this way over time; indeed, no single reason might be sufficient. What is clear from the surveys is, that the risk perception of the Koreans has changed to consider the natural environment as more an important factor in causing hazard risk than in the past. This perceptual change could be interpreted as implying that there will probably be greater public demand for addressing disasters triggered by natural forces in the future.

It is worth noting that contemporary Korean society has encountered very different, "newer and newer" types of disaster crisis (RAI 3, 2012). For example, the No.1 national treasure, 550 year-old *Sungnyemun* (commonly known as *Namdaemun*) gate was destroyed in February 2008. The criminal was a 70-year-old arsonist who had a grudge against the authorities over a land compensation issue (Kim, 2008a). This arson attack on cultural property, as means of expressing personal resentment, is a relatively new, previously unexpected type of risk; it is not listed in the surveys. As admitted by the authors themselves, the questionnaires and methods used in the two surveys are dissimilar so that extra caution is needed in interpreting the perceptual change over the last decade. Besides, as the East Japan tsunami-nuclear crisis in 2011 typified, the sources of natural and technical disaster risk are not precisely separable from each other in reality (Pelling, 2003c: 15). It should also be stressed that it is difficult to identify the characteristics of the respondents to the surveys (e.g. gender, income,

occupation, political view or age). For example, lay people and experts of the same age might have totally different risk perception (Savadori et al., 2004, Slovic, 1998).

Despite all the above confounding issues, one vital point can be inferred from the above surveys. Nature – regardless of how it might be defined (for example, see Demeritt, 2002) – is being increasingly accepted as a major source of future risk and uncertainty in Korea. Perhaps this signifies public expression of the anxiety felt about the increasing symptoms of "dual" environmental risk, stemming from compressed development (Han and Shim, 2010). The symptoms of dual risk normally unfold to reflect the fact that the resilience achieved (through material/technical evolution and quantitative changes in society) is not buttressed by corresponding socio-political/qualitative changes.

A further question is whether the changing risk perception has been nothing more than a transient attitudinal change, or elicited concrete behavioral/institutional changes. The changing risks perception is "real", if ideational, so must potentially be integrated with other priorities and values to lead to both discursive and material changes of many different kinds. For example, altered risk perception might lead to stricter building regulation, new budget allocations, and changes in governmental organization. At deeper levels, it can cause change in power relations, social contracts for natural disaster, and regime changes.

5.2.2. The social contracts of natural disaster in Korea

John Linton, who spent his childhood, and now works as a family practice doctor in Korea, contributed a column to a newspaper, critiquing the Korean social contract of hazard disasters (Linton, 2011). He looks back on his childhood when he asked his father about why local senior citizens in Korea blamed the mayor for the forest fire that occurred in his hometown. He quotes his father's explanation that:

> "In Korean culture, someone must take the responsibility when terrible incidents occur; otherwise it would be very hard to settle and calm matters. Even if the events occurred due to the people or do not have obvious perpetrators, the culture compels those in official positions to take responsibility. This culture is hard to find in the West" (ibid: no page†).

Indeed, soon after that, the mayor acquiescently resigned. This passage accounts for the nature of social contracts that have long been maintained in Korea. The people accept the authority of government, but put unlimited responsibility on them, if necessary (Ha and Lee, 2011). Thus the democratic thinking that the people have used to curb government excesses has embedded in political culture. Probably this partly has to do with Confucian culture. In the era of the *Joseon* Dynasty (1392-1897), the last royal dynasty of Korea, natural disasters were regarded as a heaven-sent warning to kings failing to hold up their end [of the social contract] (Ha and Lee, 2011, Kim, 2010a). The Annals of the Joseon Dynasty keep a record of *Sejong* the Great's (1397-1450, r. 1418-1450) remarks about severe calamities:

> "Rulers should have a mind to care for the people. The fire is a warning for me, exposing my misdeeds in the past and heralding what lies ahead. These days, the weather is truly unpredictable. The low precipitation may lead to a severe drought, which calls for public officials to help the farmers in earnest" (ibid: 298).

Of course, it is hard to confirm if natural disasters led to the deposition of any king during the dynasty (perhaps not). It is also not argued in this thesis that environmental risk in Korea always brings about a regime change. The point is that while Confucian sentiment is influential upon the current social contract around disasters, the current governance system in Korea is totally different from that of the Joseon dynasty or authoritarian regimes. This point needs greater attention. Thus it can be assumed that environmental risk can fuel more political liquidity under current institutional arrangements (liberal democratic) than those of authoritarian regimes: thus the greater possibility that the failure of risk management might lead to a transfer of power. If we accept the likelihood that climate change will cause more intensified risk of environmental hazards in the future (IPCC, 2007), this hypothesis needs greater attention, not only from policymakers but also lay people who make a difference through political participation.

5.3: The gap between perception and practice

That said, the fieldwork of this research allowed the ongoing marginality of natural disaster and climate change risk in academic and public discourse to be observed. This is not to negate the increasing perception of environmental risk *per se*, but to highlight the strong tendency to subordinate it to other core objectives in public space.

5.3.1. Government

In terms of the impacts of asymmetric power relations between ministries on cooperative CCA at the national level, RAI 2 (2011) asserts that:

> "It is extremely difficult for us [government-affiliated institute for CCA] to seek coordination with other powerful government agencies. For instance, the Ministry of Environment, with which our organization is affiliated, is probably the weakest ministry, so other agencies might not have any sense of obligation to join meetings we organize. If those organizations had been legally required to join the meetings or if there had been more incentives, it would be much easier to carry out our job of coordinating the adaptation works and networks" (parenthesis added†).

Another interviewee points to the marginality of environmental risk in public discourse, with a reference to the National Emergency Management Association (NEMA):

> "The NEMA is even not a ministry. It was established as a result of the large-scale, organizational extension in 2004. We [NEMA] do not have enough power or rights. For example, firefighting is one of our core roles. Yet, in the case of a forest fire, the Korea Forest Service has almost all the power and resources. We only play a supportive role of bringing our equipment to the fire sites. In the case of larger-scale disasters, again they are beyond our capacity; probably the prime minister would lead the governmental response to them. I doubt about the capacity of the NEMA, if the scale and impacts amount to those of the East Japan tsunami crisis" (GI 1, 2011†).

Arguably, their own members of staff see most environmental risk- and CCA-related government agencies as having least power, in terms of coordinating CCA and DRR activities at the national level (also, RAI 1, 2011). The above passages imply that when cross-governmental cooperation is required for CCA at wider levels, it might be hard for them to obtain timely cooperation. One NGO activist also acknowledges this point:

> "In fact, CCA at the national level has a variety of dimensions so coordination and cooperation are extremely important. Has the KCCCA been successful in satisfying those purposes so far? I don't think so, and they [KCCCA] also admit it...I think that an organization with sufficient political power, say the Prime Minister's Office, should take that role if national CCA is to succeed...the national adaptation plan might contain good ideas and plans. Yet implementing these requires a much stronger orchestrating organization than the KCCCA" (NI 5, 2012†).

In addition to power imbalance between ministries, RAI 2 (2011) also stresses different terms and knowledge their roles rely on, different focuses, and vertical relations with subordinate organizations that make cooperation difficult. For instance, when questioned about the lack of research into "social" vulnerability to climate change risk in her organization (CCA-focused governmental agency under Ministry of Environment), she noted that:

> "This is just my opinion. Well, that kind of research is a poor seller. We are in a position where we have to receive research funding from, say, the Ministry of Environment. Yet, they do not consider reduction of social vulnerability to climate change risk as their own responsibility, but that of the Ministry of Health and Welfare. I also agree with this view. The Ministry of Health and Welfare does not contact us for research into such issues, but the Korea Institute for Health and Social Affairs. For this reason, we [Ministry of Environment affiliated-research institutes] cannot carry out such research…some researchers in our organization might receive funding for such issues, but mainly personal [funding]" (parenthesis added, †).

Of note is that the possibility of synergy-effects at organizational levels is rather limited, due to the rigid structure of sharing roles and responsibilities. In this situation, the marginality of environmental risk within government can continue, often with the issue subordinated to other "mainstream" issues. This is still a kind of mainstreaming of climate change risk within wider development issues, yet without any change in power relations or mutual learning.

Lastly, it should be borne in mind that climate change is likely to lead to more situations for inter-governmental role conflict to erupt. RAI 8 (2011) introduces a real case that the National Weather Service and the Korea Water Resources Development Corporation came into conflict because of a failure to adapt to anticipated environmental change. He explains that:

> "For example, a couple of years ago, the National Weather Service forecast a typhoon with heavy rains. Following this forecast, the Korean Water Resources Development Corporation discharged the dams. Eventually, however, the anticipated typhoon did not come, and severe drought occurred. The impacted regions had problems because of a shortage of

> drinking and agricultural water. In that case, who between the two organizations should take the responsibility?" (†)

Similar kinds of conflict have been witnessed over numerous decisions where the removal of uncertainty is impossible, and an undesirable future event involves more than one stakeholder's area of responsibility. Electric power supply, water resources, weather forecast, food security and the like are complexly interlinked with climate change, which creates new boundaries of roles and responsibilities.

5.3.2. Non-Governmental Organizations (NGOs)

Despite the personal interest of the interviewees in environmental risk, their NGOs have not developed their own strategies, plans or social networks to address the current issues. Even a few NGOs and NPOs in Korea whose main goal is to deal with climate change risk focus exclusively on mitigation of climate change and energy security issues (NI 2, 2012, NI 4, 2012, NI 5, 2012).

Noteworthy is one NGO's attempt to tackle the marginality of environmental risk in public policy discourse. The climate change-related NGO had had a plan to exert their influence with the 2012 presidential election. The interviewee notes that:

> "Having the presidential election ahead at the end of this year, we have prepared a condensed policy report on the issue of climate change risk. The main goal is to make climate change issues more urgent and practical rather than abstract, so that lay people can consider them as issues for their lives. We hope this will help the electorate make their voting decision on the basis of the presidential candidates' policy efforts and pledge to address climate change risk" (NI 4, 2012†).

The outcome of this bottom-up approach to politicizing the issue of climate change is not easy to evaluate, yet it seems less influential than the intentions suggested. During the televised policy debates for the 2012 presidential election, for example, the invited candidates did not talk about environmental risk at all, despite the fact that one of the main topics of the second policy debate was the environment (NEBDC, 2012). Instead, the candidates spent all the given time arguing over the issues of social and economic risk, and national security (e.g. democratization of the economy, job creation and stability of employment, welfare policies, and the North Korea issue). Of course, broadly speaking, all these apparently non-climatic topics are germane to the debate on

the issue of CCA (NI 5, 2012), given their intimate relationships with the root causes of social vulnerability to environmental disaster risk (Wisner et al., 2004) and climate change risk (Adger, 1999, Adger, 2006). Yet any analysis of the policy debate confirms the serious marginality of environmental risk in public policy discourse, which is at odds with the findings of the 2007 survey mentioned above as well as the interviewees' stated interest in climate change risk (NI 1, 2011).

Again, when approached for interviews and introduced to the subject of this research (adaptation), many potential interviewees were reluctant to participate in this research. Additional time was always required to expand upon how their organizations' works and experience could greatly inform this research. Most commonly, they believed they were lacking valuable knowledge and experience about the issue of CCA. They showed concern that their comments would be useless for this research. Yet, their shared concern is again at odds with the reality of their organizations: their existing roles and mission are already largely contributing to CCA and disaster risk reduction. Of course, this is partly a matter of how CCA is conceptualized and by whom. When questioned about why the Red Cross Korea (RCK) is reluctant to address the issue of climate change risk, NI 1 (2011) noted that:

> "Even existing roles and tasks are too much for us [the RCK]. For many reasons, to address climate change risk is way beyond our capacity. The uniqueness of the RCK is to have been audited and inspected by central government. It is technically an independent organization, but much supportive and supplementary of the government. It lacks funds and human resources. Individual staff of RCK might see climate change risk as an essential issue. Yet there is not an organizational effort or action…there is another issue regarding the identity of the RCK. Citizens probably see the primary mission of RCK as the blood donation business, not disaster relief and recovery or something" (parenthesis added†).

This is but one anecdotal account of why the existing awareness of climate change risk has failed to translate into immediate action of an organization one of whose significant roles – disaster risk reduction – is closely related to CCA. There must be space for the existing roles and activities to be further advanced, in light of their own prospects of climate change risk. Another staff member answered the same question:

> "So far as I know, the RCK might have had some sort of instructions from the International Federation of Red Cross and Red Crescent Societies (IFRC) – in line with Strategy 2020 – on our future roles in fighting climate change risk. Then the RCK's headquarters would make a master plan with detailed action plans for local branches. Meanwhile, some mediation processes with central government would take place to clarify the roles of the RCK. For now there is no plan or guidelines regarding our roles in dealing with local climate change issues…probably all the staff from 14 branches of the RCK, I guess, would say that they have never thought of the issue of climate change risk before" (NI 9, 2011†).

These two insider perspectives imply that the RCK has yet to realize their potential collective capacity to contribute to CCA at a local level.

First, the identity of the RCK seems limited to that of a blood donation organization. This business is surely important but also confuses its own staff, in terms of their organization's identity and main roles. It is also probable that their fund-raising capacity has been hampered by the false belief of the potential donors that their donation might be spent supporting North Korea; there is still strong anti-communist sentiment in South Korea. Indeed, inter-Korean Red Cross talks have been held over the last four decades to deal with such humanitarian issues as family reunions and disaster relief. Yet, the belief is obviously false, as the RCK fund is not used to aid North Korea: the Inter-Korean Cooperation Fund under the Ministry of Unification. The restriction of organizational capacity by ideational/ideological distortion parallels how one liberal celebrity's relief activities for flood victims can be denounced as political and pro-North Korean activity (see Section 5.4.).

Second, and related to the above, the conservative, organizational culture of the RCK and its subordinate relations with the government hinder bottom-up organizational innovation (RAI 1, 2011). In fact, the organizational innovation, which would be required for CCA, need not be thought of as making something out of nothing. As mentioned earlier, their existing roles such as disaster relief, local volunteering activities, reduction of the economic vulnerability of marginalized groups, inter-Korean affairs, and many other humanitarian activities can be integrated with adapting to the risk of climate change, without official authorization from the government.

Last but not least, one outsider's perspective on the innate capacity of the RCK for the CCA of wider society is biased as a result of his narrow definition of CCA. When questioned about cooperative partnerships with other organizations for CCA – particularly the RCK - one interviewee answered "what's the RCK got to do with climate change adaptation?" (RAI 4, 2011). This counter-question has one crucial point. The narrow and technical definition of CCA means that the public debate on the issue continues the exclusion of many other important groups' capabilities and vulnerability to the risk of climate change from the public sphere. In this sense, the RCK should overcome not only its internal identity issue but also external bias, to engage in the governance space for climate change. The RCK might be but one of many organizations experiencing difficulty of mainstreaming climate change risk into their roles.

5.4: Narrative competitions over redirecting the developmental path

The post-developmental Korean state has recently been standing at the turning point of its history, in terms of pursuing the virtue of the long-ignored balance among differing values, objectives, and priorities. Indeed government, market and civic society in Korea also seem to have held on to this generic thinking despite their differing emphases and tactics. The major issues dealt with in the policy debates for the 18th presidential election (NEBDC, 2012) reflect the winds of change towards transforming the existing national developmental paradigm to be more inclusive of non-economic issues. It is argued in this thesis that the post-authoritarian developmental path can be depicted as constant narrative competitions over redressing the serious imbalance between differing values and priorities. The growing awareness of natural disaster and climate change risk should be understood within this context. Yet not only the marginality of environmental (climatic) risk in public discourse, but also the political biases and ideational distortion within the discourse of environmental risk, need to be seriously considered.

5.4.1. The climate change discourse as means to boost national competitiveness

The *Low Carbon, Green Growth* strategy of the Lee Myung-bak administration is one such top-down narrative, emphasizing the need to strike a balance between different values and priorities. One triumph of the new development paradigm was the choice, in October 2012, of *Songdo, Incheon* Metropolitan City as the host city for the Green Climate Fund (GCF) headquarters. This fund was established at the sixteenth Conference Of Parties (COP) in Cancun, Mexico in 2010. It aims to support

developing countries' mitigation of and adaptation to climate change. One interviewee working for a CCA-related research institute comments that:

> "After the hosting of GCF in Incheon was announced, I have been extremely busy because many more researchers and organizations have contacted me about sharing data and information about the issue of climate change adaptation. This is unprecedented concern with the issue of climate change adaptation [not mitigation] over the years" (RAI 2, 2011, parenthesis added†).

Despite skepticism about the *alleged* benefits of the Fund to the locals, it has further heightened the public and academic awareness of climate change risk, if in a partial and ephemeral way. The media captured the then booming public attention to the potential impact of the GCF on the local property market of the Songdo area. The $35 billion city Songdo, still under construction at the time of writing this chapter, is one of the new planned built-from-scratch cities in the world, in pursuit of "Ubiquitous Eco City" (Shwayri, 2013: 39). The Financial Times and the Urban Land Institute awarded the city the first Sustainable Cities Award in 2008. Yet, it is naturally ironic to refer to Songdo Eco City, not least because the area has been built on reclaimed wetland of about 6 km^2 (ibid.). From the outset, this city has been claimed and designed to be an international business district, with the primary aim of attracting foreign capital. On the one hand, hosting the GCF in Songdo might have fulfilled that aim during the last decade of the city, when it experienced difficulty attracting foreign capital. On the other hand, the Fund has faced self-contradiction by undermining its own objective, that is, to help vulnerable groups in developing countries. The reclaimed land used to provide the coastal villages' livelihood; e.g. a variety of marine products in the foreshore areas.

Perhaps hosting the GCF in Songdo has reaffirmed the Lee Myung-Bak administration's consistent commitment to the LCGG, too. Additionally, it seems to have gratified the government's aspiration to take a leading role – as a mediator between developed and developing countries – in international negotiations on climate change risk. Many of these internally and externally directed initiatives of green growth have been undertaken by major ministries and *newly* established government agencies: e.g. the Presidential Committee on Green Growth (PCGG), the Global Green Growth Institute (GGGI), the Green Technology Centre (GTC), and the Korean

Adaptation Centre for Climate Change (KACCC). The United Nations Environment Programme (UNEP) also complimented Korea's new development strategy, for its timeliness and the possibility of influencing other countries' new development visions, in their report *Overview of the Republic of Korea's National Strategy for Green Growth* (UNEP, 2010). Thus the recently increased awareness of climate change risk is partly a result of the government's endeavour, and newly established internal and external partnerships. In addition, the governmental investment in green industry (e.g. green technologies, sustainable transport, energy) has significantly increased to reach 2 per cent of the annual GDP. The government has also adopted a five-year plan (2009-2013) that constitutes a variety of projects and programs on green growth, as demonstrated in Table 5.1.

Table 5.1. Five year plan for green growth of Korea (2009-2013)

Strategies	**Policy directions**	**Amount of investment (in billion US$)**
		Total: 83.6
Measures for climate change and securing energy independence	Reduce carbon emissions	4.4
	Decrease energy dependence and enhance energy self-sufficiency	11.6
	Support adaptation to climate change impacts	28.3
Creation of new growth engines	Develop green technologies as future growth engines	8.8
	Greening of industry	3.6
	Develop cutting-edge industries	8.5
	Set up policy infrastructure for green growth	1.4
Improving quality of life and strengthening the status of the Country	Green city and green transport	19.7
	Green revolution in lifestyle	1.5
	Enhance global cooperation on green growth	0.5

Source: Adopted from UNEP (2010: 17).
Note: In this plan, the Four River Restoration Project (17.3 billion US$) comes under the categorization of CCA.

So far so good, but the above story of the GCF and the LCGG conceals the complex process by which the climate change discourse has been abused to maintain the status quo, rather than formed to tackle social vulnerability to climate change risk. In this way it has benefited a small group of winners from compressed development, such as the *Chaebol* construction companies.

The government has pressed ahead with grand scale *national* development projects and energy plans that have brought about harsh criticisms from the bottom-up (see Picture 5.2). For instance, the FRRP and the government's plan for building more nuclear and coal-fired thermal power plants at home and abroad have been critiqued as the antithesis of the core thrust of the LCGG itself. The $20 billion contract with the UAE in 2010 marked the first reactor export of Korea, which made her the sixth member in the league of global reactor exporters. The deepening anti-nuclear sentiment at the global level, in the wake of the 2011 Tohoku tsunami-nuclear accident, did not halt Korea's nuclear energy expansion plan. Instead, six months after the Japanese nuclear crisis, President Lee Myung-Bak stressed the need for safer use of nuclear energy at the high-level United Nations meeting on nuclear safety:

> "The accident at the Fukushima Daiichi nuclear power plant last March dealt a hard blow to confidence in nuclear safety…However, I do not think that this accident should be a cause to renounce nuclear energy; on the contrary, this is a moment to seek ways to promote the safe use of nuclear energy based on scientific evidence…Yet the use of nuclear energy is inevitable as there still remain technical and economic limits for alternative energy to meet the rapidly rising global energy demand or to tackle the problem of climate change" (Ser, 2011: no page).

This message might have come out of his unshakeable faith in the safety of "made-in-Korea" reactors. Since then, however, Korea has witnessed several atomic incidents, such as the power glitch at the *Kori* nuclear power plant in March 2012, which was covered up for one month. In fact, environmental NGOs argue that nuclear power plants in Korea are extremely vulnerable to destructive natural hazards, as in the 2011 Japanese tsunami-nuclear crisis (NI 2, 2012). It is worth noting the question of one unnamed participant, from one of the atomic energy-related institutes, during the debate on Disaster Risk Reduction (DRR) measures against Catastrophic Disasters in Korea, at the 10th anniversary conference of the Korean Society of Hazards Mitigation in 2010:

> "Are you [the National Emergency Management Agency (NEMA)] developing any governmental guide or institutions we [those working in the field of atomic energy] can rely on, before building or running nuclear power plants that can proactively mitigate the potential risk of catastrophic natural hazards?" (n/a, 2010, from a memo written during the conference†).

Perhaps, this question circuitously indicates that there had been no such institutional/legal guide for attending to the potential impacts of catastrophic natural events on nuclear power plants. The presenter responded that the NEMA had prepared such a guide. Yet, GI 1 (2011) notes that:

> "The NEMA plays supportive roles when large-scale disasters occur. Consider nuclear crises such as the East Japan tsunami crisis in particular. What can we [NEMA] do if they occur in Korea? We might not be able to do anything. We know nothing about the complex technologies and processes of nuclear reactors. They have to assure the safety of nuclear reactors. The difficulty of cooperation between different agencies comes from mutual ignorance of each other's system and speciality" (†).

This point is also confirmed by RAI 3 (2012) that "use of different terms in different groups can lead to not only difficulty in cooperation but also totally different policy outcomes." After the Japanese tsunami disaster, the Korean government has applied several technical measures to assure the public of the safety of nuclear reactors in Korea. Yet, a Greenpeace report released in April 2012 reveals that many parts of Korea are still severely vulnerable to the risk of potential nuclear accident (Kim and Seo, 2012). This claim is based on the consideration of the gap between the large population density within a 30km radius of 21 nuclear power plants (4.04 million, that is, the third largest in the world) and the wholly insufficient medication and lack of evacuation drills in place. Civil society's call to expand the range of the emergency zone up to 30km had yet to be accepted by the government, confirming the lack of public-private consensus. The recent nuclear scandal in 2013, in which it was revealed that parts for nuclear reactors with faked certificates have been supplied to Korean nuclear reactors with the connivance of the verification companies, is a reminder of how corruption can jeopardize society. While the cooperation required is so difficult for the above-mentioned reasons, it has been witnessed that a culture of partisan politics is prevalent, in the shape of the so-called nuclear reactors mafia – made up of the Nuclear Safety and Security Commission (NSSC), the Korea Institute of Nuclear Safety (KINS) and the Korea Hydro & Nuclear Power company (KHNP).

There is another concern that the issue of climate change risk will be pushed back down the policy priority list for the future governments. As the Director of the Institute for Climate Change Action notes:

> "The Lee Myung-Bak government resembles, if not being exactly identical to, the past authoritarian regimes in their top-down approach to planning and implementing policies…however, its leadership has surpassed those of the previous governments in attempting to politicize the issue of climate change. The individual policies under the LCGG strategy, except for the FRRP and nuclear power plants plans, have not been bitterly controversial. What is worrying is how far the subsequent governments will inherit and develop further the positive aspects of the LCGG paradigm" (NI 5, 2012†).

Yet another interviewee stressed that:

> "Even the essential tasks of CCA and DRR have failed to capture support and participation from wider civil society, not least because of the dogmatic and top-down approach that the government has taken to carry forward grand-scale engineering development works such as the FRRP" (NI 2, 2012†).

Again, in Korea it has been the government who created the governance space for climate change risk to be addressed in the first place. The government has predominantly developed and directed the rationales, logics, strategies, and participation of stakeholders within the governance space. It is worth questioning how Korean society will retain the strong impetus to grapple with climate change risk when the leadership is replaced. Unlike this concern, however, a researcher from one of the aforesaid governmental agencies founded during the Lee Myung-bak administration notes that under the Park Geun-hye government (2013~2018) the basis of the LCGG strategy has been "quietly" maintained (RAI 6, 2012). Whether this view is accurate remains to be seen in the years to come. Rather worrisome is that the LCGG is in danger of continuing to ignore the intimate relationship between broader development issues and the vulnerability to the risk of climate change (particularly human vulnerability).

5.4.2. Distorted discourses that impede wider understanding of DRR and CCA

Social vulnerability to environmental risk has been least prioritized within the governance process of climate change risk. According to one interviewee (RAI 1, 2011), in Korean society there is no legal concept of social vulnerability to disaster risk (let alone climate change risk), unlike in the U.S and Japan. Within the set of LCGG policies, there is little effort to reflect on the socio-political implications of

environmental risk. Accounting for the recent advance in crisis management of Korea, an interviewee hints at the possible reason for this:

> "The *Dae-Gu* [city] underground arson caused 192 deaths in 2003. This was not accidental but incendiary given the arsonist's hostility to society. Then, the *Bu-Ahn* bloodshed incident over the selection process of the nuclear waste repository site, the Truckers solidarity strike; thus, a series of totally new types of crisis have occurred that society never experienced before. So, the recent governments over the decade have focused on improving the crisis management system to embrace social and complex crises. But, the term SOCIAL, probably unlike in the U.K, has tremendous and exploding power in Korea. If they were termed SOCIAL crises, it would probably mean that the government is given legitimacy to repress the Truckers, opposition parties or the media in an attempt to manage and stabilize social disorder. The government was very cautious of using the term social. So, we searched for an alternative, value-neutral word to replace it – i.e. a national critical infrastructure crisis" (RAI 3, 2012†).

What made it so difficult for the *democratic* regimes to term the risk problems with apparently social origins as "social" risk? One of the possible answers to this question is that Korea has only a brief history of democracy and political freedom (e.g. freedom of assembly and expression) in the wake of the bottom-up collapse of the paternalistic authoritarian regimes. The authoritarian regimes of Korea until 1987 did not hesitate to suppress social or democratic movements at the cost of political stability and stable provision of labour (You and Chang, 1993). This is the background to the democratic government's (i.e. the Roh Moo-hyun government) effort to avoid any interpretative ambiguity by which government power (governmental authority?) could be abused or misused to suppress crises with "social" origins. An argument for addressing the social origins of climate change risk is relatively commonplace amongst global academics, as increasing attention has been paid to social vulnerability to hazard and climate change risk (Seneviratne et al., 2012). This seems much less the case in Korea.

During fieldwork, it was observed that local authorities were using the term 'vulnerability' in a dual sense. One is a very practical issue: that local government can exploit their 'vulnerability' to obtain more financial support from central government (NI 14, 2011). However, one potential interviewee expressed her disagreeability, when asked to take part in this research and she was told that the research is examining the 'vulnerability' of "your region" (Jeju). In other local governments, such as Seoul and

Daegu, officials in charge of CCA react very unpleasantly to research on ranking the vulnerability of the localities to the risk of climate change (RAI 2, 2011). RAI 2 (2011) goes further to explain that:

> "Last year, together with Dong-Ah Daily, we conducted, developed and announced the Vulnerability Index for climate change risk, to compare different local governments' vulnerability to the risk of climate change. The vulnerability of Seoul was estimated to be a bit high, not the highest, amongst other metropolises and provinces. Then the Seoul government contacted us and said with doubt about the index, "we cannot agree with the result of your index. Give us the data used. We are going to apply the data on our own." But, you know, the result of the research can differ depending on how you weight each variable…they strongly requested us to correct our results. But they stopped such complaints when the *Gwanghwamun* [see Figure 6.3] got so heavily inundated that the vulnerability of Seoul was widely uncovered" (parenthesis added†).

Perhaps, this episode indicates the sensitivity of government (more exactly, those officials in charge of CCA) to external evaluation of their responsibilities. More importantly, however, it is highly probable that to cope with such issues as vulnerability to the risk of climate change tends to be largely reduced to the duty of central government in Korea. This interpretation will gain further validity in connection with the social contracts of disaster in Korea (see, Section 5.2.2).

A famed Korean comedian Kim Jae-dong, with a progressive political view, satirized Korean society's distorted discursive system, at the concert for supporting the strike of *Munhwa* Broadcasting Corporation (MBC):

> "So, I've thought about that. Am I really lefty? Commie? Whatever I do, they call me lefty. Commie. If I say that school fees in Korea are expensive, they call me lefty and commie. If I argue that we should secure independence of the media, they call me lefty and commie. Isn't that strange? I went to *Gu-ryong* village [one of a few shanty towns in Seoul] to help the victims of flood, and then a stranger came call me commie. And one journalist there asked me; why do you continue to do political activities? I was doing post-disaster relief…I said back to him that I was hoeing up the ground, why is this political activity? Then he said that gathering is necessarily a political activity. So I said that politics politicians should quit comedy so that comedy comedians can quit politics" (Kim, 2012: no page†).

This satire expresses how those helping the victims of natural disasters (addressing social vulnerability to disaster risk) can be denounced as North Korean sympathizers. In fact, some progressive celebrities who have been involved in "such political activities" have left their broadcast programs. The National Security Law crafted to fight communism still exists, even if it has rarely been enforced recently, and it may infringe freedom of expression. It is worth noting the report by the UN Human Rights Council showing that the right to freedom of expression in Korea is in danger of regressing (Rue, 2010). The UN rapporteur Frank La Rue in the report notes his concern that:

> "[S]ince the candlelight demonstrations of 2008, there have been increased restrictions on individuals' right to freedom of opinion and expression, primarily due to an increasing number of prosecutions, based on laws that are often not in conformity with international standards, of individuals who express views which are not in agreement with the position of the Government" (ibid: 1).

The candlelight demonstrations were citizens' voluntary gathering to express their opposition to the U.S beef import and the FTA with the U.S. Again, anecdotal rumours swirled that North Korean spies or North Korean sympathizers instigated the demonstrations. Again, this is how the social construction of the Bovine Spongiform Encephalopathy (BSE) risk was wrongly linked with espionage activities in 2008. Recent provocations by North Korea such as the bombardment on *Yeonpyeong* Island and the sinking of the Cheonan naval vessel (2010) have not helped lighten these deep feelings of hostility towards North Korea.

The above cases also suggest how discourse on climate change risk (by which to address social vulnerability to environmental risk) would be contorted if it collided with the logic of anti-communism, strong national security and economic growth in Korea. This is one of the possible interpretations of how the ideological dichotomy might hinder the development of discursive diversity and ideational freedom of thought that are essential for encountering the dually structured environmental risk. That said, one further possibility might be considered. Is the ideological dichotomy really indestructible in the context of Korea being technically at war? Who will be the winners and losers if the ideological distortion disappears? Could an easing of the rigid, narrow ideological spectrum lead to institutional changes for the purpose of CCA and

disaster risk management? As a matter of fact, there are increasing signs of deconstruction of the ideological dichotomy in many parts of society; although this has so far had a limited influence on social innovation for environmental risk management.

5.4.3. The FRRP and the bottom-up resistance

The 2007 presidential election gave birth to the Lee Myung-Bak administration (the candidate of the then opposition party – the conservative Grand National Party (GNP)) as the successor to Roh Moo-Hyun's Participatory government (the ruling, liberal *Uri* party – 2003-2008). Despite the resounding victory (48.67% of the vote) over the then ruling party candidate Chung Dong-Young (26.1%), President-elect Lee Myung-Bak had suffered from low political support even before his inauguration. This was also due in part to the lowest turnout (63%) in an election since the constitutional amendment to the direct election system in 1987. Simply put, the Lee government was supported by just over 30% of the whole electorate. Indeed, the lack of representativeness of Korean politics is argued to have worsened because of the widening gap between the *conservatized* representative system and *underrepresented* interests of the public (Han and Shim, 2010, Kim, 1998). Therefore, it was hardly surprising that one of the Lee government's main campaign promises encountered severe opposition and criticism from the opposition, the grassroots, and religious groups such as Buddhists and Catholics.[26]

As in Figure 5.2, three environmentalists *illegally* occupying *I-Po* Bridge against the "dam" (reservoir?) construction continued their campaign against the FRRP for 42 days during the hot humid summer of 2010.

[26] At first, Lee pledged to build a Grand Canal that traversed the territory of Korea. Four months after his inauguration, however, his plan for the Grand Canal encountered severe opposition from opposition parties and environmental NGOs. The government modified and renamed the initial plan into the FRRP, maintaining major details of the plan such as dredging sediments, building 16 dams, and leisure development in the adjacent riversides.

Figure 5.2. Photos of occupied I-Po Bridge under construction at Han River

Source: Adopted from "Activists on the first day of the sit-in site", by You, Sung-ho, 2010, OhmyNews, at http://ohmynews.com/NWS_Web/view/at_pg.aspx?CNTN_CD=A000141986.

In the end, the "illegal" occupation of the bridge was not able to stem the FRRP. Yet, it has offered a look at the crisis of "dual-risk" climate change facing Korean society. Before discussing this issue, it is important to have a general understanding of the FRRP.

The FRRP is a national project worth approximately 17.3 billion USD (22.2 trillion Korean Won) on four major rivers of Korea: the Han River, Geum River, Nakdong River, and Yeongsan River. The goals of the project were dredging sediments, building reservoirs, leisure facilities and cycle paths, and restoring the riparian ecosystem. It was declared complete in October 2011. According to the government and the UNEP, the FRRP purported to be a cost-effective and timely project for prevention of floods, improvement of water quality, and security of water resources as well as the paradigm shift towards green growth.

It is beyond the scope of the thesis to deal in great detail with how far the FRRP has produced the benefits that were promised. Yet, the *anticipated* environmental destruction and 22 fatalities resulting from the enforcement of the impractical construction plan are too important to overlook. The detail of the disturbances and side effects can be understood by referring to the Board of Audit and Inspection's belated report (released in January 2013 when President Lee was still in power) on the FRRP. The governmental apparatus's report concludes that the FRRP was "totally flawed" for copious reasons; e.g. water quality deterioration, unauthorized changes in the basic designs of the facilities, wrongful disposal of the dredged sand, exorbitant costs for

facility maintenance management, to name just a few. The Ministry of Environment and the Ministry of Land, Transport and Maritime affairs immediately refuted the claims and contents of the investigation report. The then prime minister also buttressed the two ministries' rebuttals to the report. Whose evaluation of the FRRP are more acceptable remains to be seen in years to come. One might also ask why such report came out at the very end of the Lee government's term – the lame-duck phenomenon was worsening. This question is about how Korean society might be able to deal with internal critique of government, together with external critiques from civil society, to advance its governance system. Suffice it to say that the most harmful effects and the falsity of promised benefits were already couched in the precautionary principle-based expressions of the opponents of the FRRP outside formal politics.

How did the FRRP continue despite the grassroots opposition? For one thing, it is the delay of dialectical development between older and newer values that has dwarfed the adaptive capacity of Korean society. To put it more precisely, in many parts of the society, the social capital to support old values simply overwhelms that to uphold new values. As one interviewee notes that:

> "It was relatively legitimate in Korea to retain an intimate coalition between strong government, the Chaebols, and pro-governmental groups for rapid economic growth and the development of essential infrastructure. Korea seriously lacked essential infrastructure in the past. Yet, the reality has now been reversed, so that such growth-centered material development is less important and feasible than before. Nonetheless, the coalition still heavily relies on, and strives to legitimize, superfluous development projects for their own *survival*. The FRRP is the archetypal case" (NI 2, 2012†).

This should not be seen, however, as meaning that the infrastructure built throughout and after the compressed development lacks problems. As a matter of fact, many of the urban hazard disasters in Korea are attributable to extremely rapid urbanization, deprived of vital concepts such as Disaster Risk Reduction (DRR) and safety culture. The gist of the above passage is that the hegemonic power that resists the call for fundamental change in the priority of values and power relations remains undiminished, focusing on a few old material values, while a few groups upholding other core values – one of these is hazards resilience – are politically weak or absent at

the national level of politics. The interviewee goes further to account for what is meant by the 'intimate coalition':

> "The Korean state has the Ministry of Land, Transport and Maritime Affairs. A few countries might have such a ministry that orchestrates construction and development projects nationally. The bureaucracy constantly searches for new development projects that can legitimize the need for huge budgets. Members of Parliament are eager to become members of the Construction and Transportation committee in the Parliament so as to build a bridge or something for development in their constituencies. So again, the engineering-construction coalition has and exercises enormous power to manipulate the national budget for its own interest. Then construction companies, some scholars and media join in the power cartel. These five pillars of the coalition have interlocked to make up 17-18% of the national GNP" (NI 2, 2012†).

It might be foolish to believe that the vulnerability of Korean society to the dual risk of climate change is increasing at this single source – the engineering-construction coalition. Other two known adverse social capitals are the "Mopia" (compound word of Ministry of Finance and Economy (MOFE) and Mafia) and the coalition of nuclear energy explained above. What they all have in common is that they were the pillars of the compressed development that are still exerting tremendous influence on the whole society.

On the other hand, it is evident that the once required strong roles of the state and the three coalitions have not changed, despite the entirely different reality of which the need for qualitative change overwhelms that for material change. Even worse, it is to some extent true that the LCGG has been exploited by the old coalitional politics to maintain their power. The different reality might mean not only that Korean society might not need such excessive infrastructure development, but also that it is becoming more difficult for builders to make a profit from a large property development project. For instance, the largest-ever $29 billion urban development project in Yong-San, Seoul, has recently defaulted in the wake of an ongoing dissensus amongst the stakeholders of the project and failure to pay interest ($5.3 million). The prospects for other large urban development projects outside Seoul also look dim. The recently recurring emergency situation of the electricity supply and demand system, particularly during summers, highlights the limits of electricity policy hinging exclusively on the supply dimension. Most importantly, it is a fact that the country

cannot maintain as high a growth rate as it did during the period of compressed development; i.e. more than 8 percent of growth per year from the 1960s to the 1980s. Given all of these issues, where can the society start developing a developmental path that is compatible with the new realities?

When asked about the legitimacy and implication of the FRRP, two interviewees point out that the FRRP project is one of the major pledges by President Lee, who was *democratically* elected, so that the project should have gone ahead anyway. One interviewee notes that:

> "Well, I don't know much about the FRRP. But as public administration scholar I was opposed to it. Yet, I did not question the need for carrying out the FRRP itself. Because President Lee, Myung-Bak was chosen due to his pledges anyway, the voters chose him, and to push it forward is only natural in a democratic country. What I questioned was the procedural legitimacy - the project has flouted the essential laws and environmental regulations such as environmental effects evaluation…because it has been put forward in rough-and-ready ways, let alone failing to create the promised benefits like securing water resources, capability for DRR and job creation, it has been criticized for merely fattening up Chaebol construction companies" (RAI 3, 2012†).

Another key interviewee, a former head of a CCA-related institute, gave a slightly different perspective:

> "Even the low turnout for the presidential election does not mean that the democratic outcome does not reflect public consensus. In addition, we do not have enough time. We cannot procrastinate for another two or three years evaluating possible side effects of the FRRP. It should be done within the period of the presidency, five years!" (RAI 4, 2011†).

Whilst their views differ slightly, they are in agreement up to the point that these projects cannot be questioned because they have been created through a democratic process. This is a view that many laypersons might hold of the FRRP and LCGG. As many Korean political scientists and some interviewees point out, however, Korea needs to deal with many unresolved problems of democracy as well as a lack of social consensuses on various issues (NI5, 2012, NI2, 2012, and Choi, 2010). One could even go as far as to argue that a representative democracy is but one possible way of

fulfilling social values and expectations, and dealing with social conflicts, to be resilient against disaster risk; cf. deliberative/participatory democracy (Hartz-Karp and Meister, 2011). This point is extremely important for this thesis. After more than two decades of democracy, there is a tendency to take democracy for granted without questioning its contents, processes and anticipated ramifications, which is not always beneficial for society to maintain its hazard resilience. It sometimes covers the possibility that a handful of groups can gain political legitimacy by exploiting discursive distortion to fulfil their own interests against others'. Yet, together with the structural, adverse forces born out of compressed development, this tendency has provided a reason for alternative ideas to arise and compete with it.

5.4.4. Narrative competition between development and democracy: a synergetic advance ahead?

As was frequently stressed before, Korean society's recent experience of encountering the greater awareness of climate change and disaster risk reveals a greater tendency to support the existing ideology, material interests, and power relations, than to reflect on the underlying causes of dual risk. The immediate, bottom-up reflections on the tendency found in various narrative competitions, as in the case of the FRRP, were seemingly weaker than the better-organized vested interests' use of discourses and strong social capital. One interviewee accounted for this, "in Korean society, the conservatives have shown greater ability to stand together than progressive/opposition groups against any external power to possibly damage their endemic values and interest" (NI 14, 2011). This is also evident from the results of previous presidential and general elections: the lower the turnouts were (mainly because of the lower participation of the generation in their 20s and 30s), the more likely the candidates of the GNP (conservative party) were to be elected. Probably, this is due in part to the institutional memory of how the society has achieved such rapid growth in the past, based on what Evans (1996: 1119) calls the "state-society synergy" effect, whereby high levels of social capital mobilized civil society in Korea. Without looking at the older generation's experience and sense of closeness to such collective reforms in the past, it is hard to properly understand the current political landscape of the society. The Lee administration used similar strategies to those of the past authoritarian regimes. An example is the way of planning and implementing new initiatives – as the national five-year rolling master plan for CCA is reminiscent of the five-year economic

development plans of the authoritarian regimes – despite the completely different milieu because of the two terms of progressive government from 1998 to 2007.

For the reasons above, the Lee government has accepted institutional changes to achieve CCA, to the extent that any new ideas and technologies do not harm the ideological foundation of conservatism. It should be stressed, however, that the marginal institutional change (e.g. the Basic Act on Low Carbon and Green Growth) has ended up producing a discursive space in which even antagonistic groups (e.g. environmental NGOs and critical scholars) can join to bring in totally different narratives of climate change risk. Equally, however, these groups had seldom been interested in the issue of climate change risk, particularly adaptation to environmental risk, before the Lee Myung-bak administration. In fact, this seems a parallel process to how the authoritarian regimes had succeeded with compressed development, by means of the very institutional structures of developmentalism *upon* which the bottom-up resistance of the 1980s built a democratic regime. The democratization of 1987 did not immediately uproot the authoritarian culture, orthodox worldviews, pre-existing social capital, aspiration for growth and other norms as well as codes of conduct. Rather, it has so far found a way to sometimes coexist/cooperate with or overcome/replace the old social structures embedded in the development path. Broadly speaking, this supports one of the core tenets of historical institutionalism, the so-called "path-dependency" that is contextualized elsewhere with a reference to the evolutionary aspects of the power sphere for CCA in the context of Mexico (Redclift et al., 2011: 118~141). Yet, as Schmidt (2008: 316) notes, equally critical is to shed light on "how the historically transmitted, path-dependent structures are reconstructed" through ideational and discursive properties stemming from human agency.

Before embarking upon an analysis of the dynamics of political and environmental change in the case of the change of mayor in Seoul after the urban disasters, there are a couple of vital theoretical implications, in the light of what has been debated so far. The structural forces of Korean compressed development, such as the rigid governance relationships (strong bureaucracy, mobilized and compliant civil society, large conglomerates), ideological impetus (anti-communism), and authoritarianism are still influential in the making and implementing of public policies in the post-developmental society. Although the level of governmental innovation to address the

increased awareness of environmental risk is marginal at best, it has unintentionally generated the discursive space in which critical ideas can emerge to create an alternative narrative of climate change risk. Yet, the level and kind of ideas required to compete with the dominant discourse of climate change are not only "cognitive" and "policy/programmatic" (Schmidt, 2008: 306). Instead, the opposition groups have had to fight against deeper levels of idea, including strong normative ideas. These are President Lee Myung-bak, scholars supporting government, the strongly allied groups, and lay people's perspective of nature – based on instrumental rationality (scientific prediction) at the cost of communicative rationality (NI 5, 2012), government paternalism, the logic of compressed development (focus on rapidity and outcome rather than safety and process), the narrow ideological scope (Choi, 2010) and low civil participation. It is not argued that the national level political dynamics of environmental risk are replicated along the same lines at the city level. Instead, zooming in on city level politics allows us to grasp in greater detail the manifestation of political reflections upon the dual risk of climate change.

5.5: Conclusion

This chapter had looked closely at the ways in which climate change and environmental risk have been perceived, and how this has fed into policy development and the national project process, such as the FRRP. It is hard to entirely deny that the existing hegemony, power relations and ideological rigidity have helped to eradicate poverty and fulfill other important material needs in the past. Moreover, it was pointed out that the need for political stability in Korea stems from the reality that the country is technically still at war with its Northern counterpart. If social needs, such as DRR, clash with mainstream values and vested interests, however, they tend to be discursively distorted in the political space of Korea. This mood seems to have been easing since the election of the first female president Park, Geun-hye (2013~2018, conservative *Saenuri* party, the daughter of the former authoritarian president, Park Jung-hee). She has made considerable efforts to improve the social safety net and has started to deal with a far greater range of non-material issues. This chapter has made two points.

First, the chapter described how the government constructed and employed the discourse of climate change risk to maintain the status quo (allied groups). Although the LCGG paradigm can be considered to be an innovation at the policy level, the legacy of compressed development is still prevalent in the discourse of development. Ironically, this has led to the formation of new a governance space in which alternative ideas with different worldviews and causal beliefs compete with the mainstream in terms of climate change discourse. Second, debate on the existing dual-risk thesis has not included disaster triggered by natural hazards. This is because risk means only "manufactured" risk under the dual-risk thesis. Yet, it is extremely difficult to separate the source of modern disaster risk into technical and environmental elements, even if the disaster under consideration is triggered by natural phenomena. The compressed spatiotemporal reconstruction of modernity means that heterogeneous values, ideas, interests and power relations coexist in such a way that disaster risk becomes a political issue. As seen in this chapter, however, many social issues and needs such as DRR are kept apolitical by those who can benefit from ideological and political stability. As Choi (2010) stresses, Korean society is conservative, and has a narrow ideological spectrum and low levels of political participation. This claim is seriously

questioned in the next chapter, with reference to the change of the mayor of Seoul following the MT. *Woomyeon* landslides crisis.

Chapter 6: Seoul, the mayoral change as political reflection on dual risk

6.1: Introduction

This chapter begins by considering the phenomenon of hyper-concentration in which social, economic, political and cultural assets are excessively concentrated towards the capital city, Seoul, in Korea. In this chapter, among other recent urban disasters, the MT. Woomyeon landslides crisis is seen as a symptom of dual-risk in Korea. However, the question of whether and how such urban disasters have opened up new governance space will also be discussed. The main focus of this thesis is upon the extent to which urban disasters impact on political change. In addition, this chapter considers the question of whether the change of mayor in Seoul in the wake of the landslides crisis in 2011 has had any impact on urban disaster-specific resilience. Therefore, this chapter will show how heterogeneous ideas, causal beliefs (e.g. causation of disaster) and other deeper level ideas compete to generate the different nature of urban resilience.

In Section 6.2, this chapter describes Seoul as a typical city in which the ramifications of compressed development are easily seen. Section 6.3 will account for recent urban disasters in Korea, while section 6.4 takes up the main focus of this chapter in considering whether the change of mayor in 2011 should be seen as a political reflection of the urban disasters. In addition, evidence of the impacts of the political change on the ways in which disaster risk is prepared for is offered in Section 6.4.3.

6.2: Seoul as the archetype of compressed development

Seoul was not simply Korea's Largest Town; it was Korea.

In his work *Korea: The Politics of the Vortex*, Gregory Henderson, American political scientist, made this passage half a century ago (Henderson, 1968, cited in Choi, 2010: 87). He did not make this remark in the context of the debate upon the risk of urban hazard and climate change. Yet, the passage might be more applicable to contemporary Korean society, given the signs of increasing political, economic, and cultural concentration "towards" the Seoul metropolitan area (occupying 11.8% of the national territory) as well as "within" Seoul (0.6% of the territory) (Yim, 2003, Lee, 2005). Table 6.1 illustrates quantitative aspects of the hyper-concentration towards the capital region.

Table 6.1. Hyper-concentration (Seoul, Incheon and the province of Gyeong-Gi)

Quantitative indicators of hyper concentration to the Seoul metropolitan area							
Intensifying concentration rate of infrastructures (%)							
	Universities and university students (2005)		Medical institutions (2004)	Savings and loans in financial institutions (2005)		Public offices (2003)	Emplo-yees (2005)
Concentrati-on rate	39.3	38.1	51.1	67.8	66.7	85.4	49.1
Intensifying concentration rate of population and GDP (%)							
Year	1980		1990	1999	2004		2010
Population	35		43	46	48		49.2
Gross regional domestic product	35.7		43.9	44.6	47.7		47.8

Sources: Adopted from, Choi (2010) E-national index (http://www.index.go.kr/egams/index.jsp).
Notes: This table is a combination of two different tables. Each figure in the first table accounts for the high concentration ratio of infrastructures and institutions in the Seoul metropolitan area against those of the entire country. The second table illustrates the increasing proportion of the population and GDP in the Seoul metropolitan area.

Urban concentration within Seoul is serious enough to have entailed socio-spatial polarizations (Yim, 2003). This can be exemplified by the extremely high real estate value of the greater GANGNAM region (including three districts such as Gangnam-gu, Seocho-gu, and Songpa-gu out of 25 districts of Seoul, see Figure 6.1) in which the

high-income class, prestigious education infrastructure, headquarters of large conglomerates, and skyscrapers are concentrated.

Figure 6.1. Map of 25 districts/boroughs (gu) of Seoul

Source: The author
Notes: The red-dotted area is the so-called GANGNAM. The *Gangnam* means south of the (Han) River in Korean.

According to a report on the official land price from 2001 to 2011, the total land value of the three districts (about 365 trillion won) forms over 10% of the entire country's land value (about 3535 trillion won) (Yoo, 2011). Other indicators of urban concentration and polarization can be added here; but of profound importance is what they might imply in the context of adapting to environmental disaster risk.

First, three decades ago, urban research had already pointed out a set of inter-linked driving forces that account for the rapid urban (population) concentration in Korea: rapid industrialization (particularly the secondary sector), out-migration from rural areas to cities, and the strong role of the government itself (Smith et al., 1983). The first two factors are not unique in the history of urban concentration across the world. In the Korean context, however, the last factor – the strong role of the state – seems to have contributed particularly strongly to urban concentration. In fact, the developmental state of the 1970s already recognized the severity of urban

concentration. Unexpectedly, however, the initiatives and policies for de-concentration ended up creating large urban centers in the Seoul metropolitan region and Southeast of Korea, in the second and third largest cities *Busan* and *Daegu* (ibid.). The government was eager to develop industrial complexes, amid the transition from the formative to technology-intensive industries, on the basis of which new export-oriented industries could be accommodated (Bae and Sellers, 2007).

The Presidential Committee on Balanced National Development (renamed as the Presidential Committee on Local Development as of 2009) was established in 2003 to address the hyper-concentration problem. The committee has undertaken several programs and initiatives such as the revitalization of local industries and the relocation of major public institutions to the administrative capital city of *Sejong*.

Second, authors such as Henderson (2002: 89) go further, arguing that "some degree of urban concentration" helps reduce "inter- and intra-regional expenditures" at the early stage of urbanization. As NI 2 (2012) commented in interview, however, the excessively high degree of urban concentration in Korea is bound up with recurrent urban hazard disasters. He explains the historical linkage between rapid urban expansion (as a result of concentration) and the socio-spatial construction of hazard vulnerability:

> "Urban disasters in Seoul have social implication of different kinds. Before last year [2010], for example, the *Gangseo* and *Yangcheon* borough areas suffered serious inundations. This has affected almost 20,000 households. The floodplain area was incorporated into Seoul in the early 1960s when the latter was expanding rapidly. During the rapid urban expansion resulting from rapid industrialization, the city needed to quickly provide residential space, particularly for migrant workers from rural areas. Many of the semi-basement flats that normally lie lower than sewage pipes were built at that time. The economically and socially weak might have had to occupy the vulnerable places because of the cheap rent" (NI 2, 2012, parenthesis added†).

This is a parallel process to the formation of hazard exposure through the colonization of low value and risky land by squatter communities in Asian and African cities; or in the U.S. context, the concentration of exposed population to disaster risk in low income districts and temporary accommodation (e.g. trailer parks). Yet, as will be clearer later, it is not just the above-mentioned districts

that have suffered from urban disasters; even the most prestigious districts in Seoul are no exception. Of course, this is not to deny that hazards vulnerability is more than the matter of exposure to hazardous events; consider other components of vulnerability such as adaptive capacity, resistance or resilience (Adger, 2006). It is plausible to think that less adaptive capacity results from socio-economic characteristics. Suffice it to say at this stage that compressed and concentrated development by the strong state has put both developed and underdeveloped land in Seoul at risk.

Third, Choi (2010: 32) considers the deteriorating hyper-centralization as indicative of Korea's regressing democracy, attributing its origin to the low political participation and conservatized system of representation. He argues that this mirrors the dearth of value diversification and the narrow ideological spectrum, thereby making Korean society monolithic. In addition, the 1997 financial crisis and the ensuing restructuring further aggravated the socio-spatial polarizations in Seoul (Yim, 2003). In fact, until the early 1990s the authoritarian government was able to continue high economic growth with relative success in keeping down the level of economic inequality. The trend was interrupted by the financial crisis and the ensuing structural adjustment policies. Accordingly, social policy reforms have aimed for more inclusive protection of citizens since the financial crisis until recently: e.g. unemployment benefit, public pensions, and health insurance. Nonetheless, as Kwon and Holliday (2007) notes, the present developmental welfare state has been designing and using social policy for further economic development. This argument is similar to the case of the Lee Myung-bak government's abuse of climatic risk to legitimize grand scale construction projects such as the FRRP.

From the above points, it is reasonable to say that the strong state has predominantly shaped the spatial structure of the nation and cities. This fact has huge implications for Korea's adaptation to climate change risk, because urban vulnerability is a historical result of collective endeavors to foster the compressed modernization. It is one thing to say that the developmental state has to a large extent intervened in the shaping of vulnerability to environmental risk, in terms of exposure to hazards. It is another thing to say more importantly that such rapid land use change in urban space has led to the situation that even the richest parts of Seoul – Gangnam districts – are now highly

vulnerable to environmental risk, as will become clear through analysis of the Woomyeon landslides crisis and urban floods.

6.3: Urban hazard disasters in Seoul

Torrential downpours and typhoons are common hazards in the Korean peninsula. They often lead to (flash) floods, landslides, vessel sinking, destruction of buildings and infrastructures, despite some beneficial effects such as mitigation of algal blooms and droughts (Son et al., 2006). With the rapid development of urban dwellings near mountain areas across the Korean peninsula, however, urban landslides have been an increasing concern in Korea.

6.3.1. MT Woomyeon Landslides crisis

In the early morning on 27th July 2011, calamitous landslides took place in *Seo-Cho gu*, that is, one of the three local counties of *Gangnam*. The two-day record downpour (461mm) from 26th to 27th was enough to reveal the high vulnerability of the area to landslide. This was about one-fourth of annual precipitation. Figure 6.2 shows the proximity of local dwellings to steep mountain slopes of Mt. Woomyeon. Despite repeated claims, the weakening of the ground was not the root cause of the landslide disasters. The urban landslide on Mt. *Woomyeon* occurred in one of the richest areas of Seoul, *Seocho gu*. Triggered by the record rainfall (87mm per hour), it struck nearby villages killing 16 residents. Just like the floods risk, urbanization and climate change will continue to test the capacity of the local government to adapt to the risk of landslide.

Figure 6.2. The MT Woomyeon landslides crisis in Seoul

Source: Adopted from NEMA (2011).

Certainly, it was institutional and behavioural failures that led to the loss of life and damage to property in the landslide. As usual, before the crisis the Korea Forest Service sent landslide-warning message to local authorities in the area. In the case of *Seocho* gu office, however, it was retired officials who received the landslide alert text messages. *Seocho* gu is one of GANGNAM areas, although some victims were living in converted green houses. In fact, there had been continued petitions by the residents to develop measures to prevent landslides. There were visible signs of a landslide when the Category 3 typhoon *Kompasu* hit the villages near Mt. *Woomyeon* in 2010.

6.3.2. Urban inundations

Most losses and damages from natural disasters in Korea over the decade have resulted from meteorological hazards. Chang et al. (2009) stresses that deforestation, land use changes and human encroachment on floodplains have exacerbated flood risk in several cities in the Gangwon province of Korea. He also argues that climate change will increase flood risks, since Korean society has not properly developed proactive, non-structural measures such as building permits and related regulations. Yet, nowhere is land use change and development in floodplains more evident than in Seoul. As a result of rapid urbanization over the last four decades, the water infiltration capacity of the ground surfaces in Seoul has greatly decreased; the imperviousness rate of roads rose from 7.8% in 1962 to 47.1% in 2010. Indeed, changing soil characteristics in urban areas evidently have a strong bearing on the shaping of urban flood risks (Yang and Zhang, 2011).

Figure 6.3. Inundation of Gwang-hwa Square and Gangnam area in Seoul

Sources: Modified from Ko (2010).

More detailed analysis of the two-year urban inundation will follow later with an emphasis on its indirect role in diminishing the political legitimacy of the local government and incumbent mayor. It should be noted however that the impacted areas are highly developed, commercial areas in Northern (*Gwang-hwa* Square, the left in Figure 6.3) and Southern Seoul (GANGNAM, see Figure 6.1). This is probably why they attracted more media attention when hit by environmental hazards than other invisible, backward areas in Seoul.

Two years of inundation brought a question as to whether intensifying disaster risks are the only important factor in urban flood disasters. According to the governmental report of investigation by the Board of Audit and Inspection of Korea, the excessively heavy rainfalls were less responsible for the floods; improper urban development was the main cause. Of course, flood risks are still rampant in rural areas in which the means of livelihood largely consists of primary industries prone to the changing climate. The ongoing tension between the Ministry of Food, Agriculture, Forestry and Fisheries and insurance companies offering flood insurance is closely related to the rising disaster compensation for crop losses due to annual typhoons and floods.

Korea has set new records for the rate of urbanization– e.g. concentration of urban population in large cities such as Seoul (Henderson, 2002) as well as the intensity and frequency of local rainfalls every year. In this sense, (Mitchell, 2006)'s call to take account of climate change risk, urbanization processes, and vulnerabilities to disaster risk in a simultaneous manner is greatly resonant for Korean society. Regrettably, research into CCA by Korean scholars has not furthered fuller integration and mutual

learning between different disciplines.

6.4: Political reactions to the urban hazard disasters

There has been minimal research on the issue of the political impacts of hazard disasters on local governance regimes, particularly in the context of post-developmental states such as Korea. This is curious, not least because of the relatively long history of *a politics of disaster* asserted by radical geographers over the three decades (Pelling and Dill, 2009), and the increasing evidence of the political implications of environmental risk in Korea. It is not easy to foresee the political implications of urban hazard disasters. A possible starting point for the debate is to see if and how the immediate aftermath of environmental hazard disasters opens up new spaces of governance.

Two contrasting hypotheses have been developed to identify the political implications of natural disasters risk. One is that disaster impacts are argued to reinforce the status quo and existing power relations, as in the case of the FRRP; another is that they trigger irreversible political/institutional changes (ibid.). This thesis uses and elaborates the concept of "dual-risk" to verify the applicability of the two hypotheses to the Mt. Woomyeon landslide disaster. The physical intervention of the landslide hazard is argued here to have opened up a new governance space, such that the existing concepts of, and discourse on, natural disaster risk are tackled from the bottom up. Before examining the consequences of the emergence of the new governance space, it is vital to question whether the landslide crisis is a typical symptom of dual-risk.

6.4.1. Dual-risk of the Woomyeon landslides crisis?

The theorists of dual-risk have not even posed the above question. The concept was originally developed to reveal that East Asian societies such as Korea, Japan and China, after compressed development, now face qualitatively different, complex risks than Western Risk society (Beck, 1996), owing to the dually structured sources of risk – stemming from both the success and deficiency of modernization (Kim, 1998). Elaborating the dual-risk thesis, however, Han and Shim (2010: 475) argue that "[r]isks differ from natural disasters since the former refers to the manufactured uncertainties produced by modern social systems".

The dual-risk thesis has yet to overcome the dichotomous conceptualization of nature and society that blurs the important roles of social systems in shaping the vulnerability

to the hazards disaster risk (Mustafa, 2005, Mustafa, 2009, Pelling, 2003c). The *socionature thesis* reminds us that it is difficult to demarcate the boundary between nature and society (Castree and Braun, 2001, Mustafa, 2009). This does not deny the importance of the material aspects of natural disasters, but stresses the difficulty of separating the existence/reality of natural disasters from social values and human knowledge (Mustafa, 2009). Meanwhile, however, the socionature thesis has paid scant attention to the environmental risks of East Asian societies. In fact, dual-risk has significant implications for the socionature thesis, too. Arguably, the wide cleavage between the strength of instrumental rationality and the lagging social/political development (or the undiminished presence of traditional discourses and normative values) of dual-risk societies has created various contexts in which the edifice of the socionature tradition can be testified and advanced. In addition, the emphasis of the socionature thesis on social construction is in line with the efforts by dual-risk scholars to differentiate among reflexive modernizations of different societies (between Western and East Asian societies and, within those of East Asian countries), by looking into "the cultural-discursive articulation of collective desire and aspiration" (Han and Shim, 2010: 465).

It is also critical to take into consideration the close relationship between the changing climate (structural process) and existing/future natural hazards that groups of prominent researchers have defined through interdisciplinary collaboration (Seneviratne et al., 2012). Arguably, more complexly interwoven sources of environmental risk – natural hazard, technical and institutional – will be felt and recognized, requiring a more integrative and holistic approach to natural disasters (Pelling, 2003c). In this regard, to graft new insights of dual-risk onto socio-nature thinking has several benefits in addition to those mentioned above. In particular, this is expected to inform research into CCA in the context of societies in transition challenged by unbalanced paths to development, if not necessarily identical to those of East Asia. The integration of dual-risk with socio-nature ideas is argued to help those societies develop proactive CCA politics with more feasible options than Risk Society thesis itself, which will account better for the temporally distant modernization of Western societies.

It is hard, if not impossible, to explore the causal relationship between climate change and the landslide crisis. However, if the findings of the SREX report and IPCC reports

are accepted (Seneviratne et al., 2012), the landslides crisis is already a sign of a failure to adapt to climate change risk. What makes the landslides a typical example of dual-risk is the "institutional contradiction" (Seo and Creed, 2002: 222) that the existing institutions (socially underdeveloped) fail to adapt to anticipated environmental risk.

A year before the landslides crisis of 2011, category 3 Typhoon Kompasu had already demonstrated the "inefficiency", "non-adaptability", and "incompatibilities" of the existing institutional arrangement of the governance regime (see Figure 3.3). The typhoon (recorded up to 188km/h) and heavy rains had recurred in Seoul over the years, including the regions surrounding Mt. Woomyeon. Several residents and radical scholars had already made several requests to the previous Mayor Oh administration to take immediate measures against the anticipated landslides risk (SI, 2012). The requests were either simply ignored or fulfilled in a partial way. Thus the rare opportunity to prevent disasters was totally wasted. As the foreign experts who were invited to the second investigation on the cause of the landslides crisis also point out, one year might not have been enough to set up any *fundamental* resolution (ibid.). Nonetheless, the foreign experts as well as the residents did not forget to mention, "immediate action needed to have been done with deeper understanding of, and detailed investigation into the impacted areas" (ibid: no page). It is not clear why the previous mayor Oh's regime and the local council ignored the request from the local residents. Yet, it is clear that, despite the warning in the previous year, the partnership between the local authority and civil society did not work out well.

Thus it can be understood that the local self-government system in Korea has not led to strong public-private partnerships for disaster risk management, despite two decades of political decentralization. RAI 1(2011†) adds that:

> "Well for one thing, the local government tends to be more conservative than the national one in the context of Korea. For example, the national bureaucracies are more exposed to international interaction with foreign governments, and have more opportunities for studying abroad on government scholarship…probably they are more enlightened in their views on collaborative governance…however, closer to local areas, more social traditions and authoritarian cultures have remained."

This can be comprehended as meaning that a public-private partnership at the local level is more limited for promoting cooperative disaster risk reduction than at the

national level. NI 2 (2012) also notes the failed attempt of the local government and local community in Yangyang (a small seaside town in Gangwon province) to build a participatory governance model for the sake of floods management. The failure is attributed to the pre-existing rights and power of the local authority, a lack of communication with local communities and the continuation of unnecessary construction. RAI 1 (2011) also adds that the risk management system in Korea still relies heavily upon the top down approach, which is not very different from that of the authoritarian regime. He exemplifies this point by pointing out the case of the delayed development of the national safety management information system:

> "Working for the advisory committee in the national safety management information system, I realised it was still much performed in a top-down, government-centered way. Over several years, I argued that only by being connected to private organizations could the effectiveness of the system be advanced. The existing modus operandi of the system does not show real-time data during natural disasters. The problem is not the system itself. Rather the necessary data are not entered to the system. Why? Under the current system, the data has to be validated through officials' field investigation on disaster-torn places. But during the chaos two to three days after the occurrence of natural disasters, such field investigation does not happen. So decision-making over which area needs which relief supplies is delayed. So my argument was that NGOs should be given the rights to enter data. NGOs do not have responsibility so they can roughly yet quickly enter unvalidated data. Here accuracy and speed lie in inverse proportion to each other…by contrast, a big gap between the offered data and real needs can be problematic to officials. So, validated data are important for them. My argument has yet to be accepted by government. The logic of their counterargument is that civilians should not have access to the system that includes sensitive information on national security" (ibid: †).

Again, the national security issue is used as an excuse to keep the information system for natural disaster risk management in officials' hands only. Similarly, the opportunity to prevent the landslides crisis was missed because of the poor information feedback and the low level of trust between the local authority and the residents. In this regard, the landslides crisis is a product of socio-political underdevelopment. The lack of communicative rationality and social capital was not replaced by any alternatives such as traditional norms/values, even when the landslides disaster risk was anticipated. If proactive efforts are so difficult for government to make, what political options are open to society, in terms of preventing the recurrence of similar disasters?

6.4.2. Regime change as a response to environmental risk

This section shows the local expression of urban disaster risk in the context of Seoul's recent mayoral change. Almost always, (local) government improvises a "renewed" proposal for disaster risk management after being hit by environmental shocks and stresses. Any delay to clarify where the responsibility lies and to make a long term plan for DRR might be too much of a political burden to local authorities. To appease the irate victims and shocked citizens, governments prefer immediate, visible, and excessive reactions to urban disasters that often largely rely on engineering consultancy. It is therefore no surprise that the new proposal lacks the essential, if laborious, diagnosis of root causes of social vulnerability to the risk of hazard disasters (Wisner et al., 2004). This prevalent, yet problematic environmental hazard risk-sociopolitical response relationship helps account for why natural disasters recur. Yet, this is only the beginning of the debate because the transition of critical consciousness to reflexive CCA (Pelling, 2011) does not occur spontaneously, despite the complex political and discursive mechanisms of society.

There are two central aspects of this debate: whether the urban disasters in Seoul serve as a catalyst for political change; and how the latter in turn alters the nature of urban hazards resilience (Pelling and Dill, 2009). First, the debate begins by mapping out the relationship between the urban disasters (inundation and landslide) and the subsequent mayoral change of Seoul (from the conservative to the liberal) in October 2011. As acknowledged by several interviewees (RAI 1, 2011, RAI 3, 2012, NI2, 2012), the urban hazard disasters did not autonomously oust the previous mayor of Seoul. The debate opens to other driving forces and contexts of the mayoral change. Second, it is also imperative to see how the mayoral change has affected the existing discourse of disaster risk, related organizations, and the policies and practices of DRR. Positive proof has been observed to indicate that urban hazards resilience and its enhancement largely rely on the nature of the leadership and governance regime (RAI 2, 2011, NI 4, 2012).

Yet, the discussion does not aim to produce universal accounts of the above hypothetical causations between the variables as in Duit and Galaz (2008). What is important is to shed a new light on the critical moment at which the immediate aftermath of urban hazard disasters, along with other crucial drivers, has begun to

knock out the already *debilitated* local authority of Seoul. Research into CCA in the context of Korea has not paid enough attention to the non-material impacts of climate change, such as a regime change. Probably, this section is a first effort to fill the gap between the lack of knowledge of institutional adaptation to, and growing awareness of, climate change risk.

6.4.2.1. Causes of the change in mayor

A political regime changes for many different reasons such as external shocks, internal violence, unmet social needs, and often a combination of all of these. Throughout this thesis, an urban (governance) regime refers to an institutional arrangement around which actors/groups with differing interests, priorities and power either collaboratively or conflictually address specific issues that they believe define their collective survival and sustainability (Young, 1989, cited in Wijen and Ansari, 2007).

Not every mayoral or presidential change can be considered as a regime change, though. As shown by North Korea's recent case, the family dictatorship (the transfer of power from Kim Jong-il to Kim Jong-un) did not entail change in institutional arrangements at all. Therefore, not only the change of a political leader but also the contextual reasons for the mayoral change are of profound importance, as well as new expectations people have of the new leadership, accompanying changes in development priorities, and most importantly actual innovation in the form and quality of governance. Given this, to what extent can the recent mayoral change of Seoul be construed as a regime change? To answer this question, a brief depiction of the then political landscape is required.

Under the newly coined banner "Design Seoul", the previous local authority of Seoul (Mayor Oh Se-Hoon, hereafter referred as Mayor Oh) strived to rebrand Seoul and boost the city's global competitiveness, amidst its recognition of growing competition with other global capital cities. "Design is everything" Mayor Oh said when launching the Design Seoul plan. High-cost events and construction projects such as Seoul Design Olympiad (2010), *Han* River Renaissance Project (2006-2010), and the construction of *Dongdaemoon* Design Plaza (2009-2013) were major parts of the plan.[27]

[27] The past authoritarian regimes once heavily influenced the building of the socio-spatial identity of the local cities, including Seoul. At present, however, the banner applied by the local authority mirrors the development of local politics and decentralization since the mid-1990s as well as the increased right and

When the urban floods and landslide badly damaged Seoul in 2010 and 2011, Mayor Oh, in his late forties and a party member of the conservative Grand National Party (GNP), had just started the second term of his mayoralty: 33rd (2006-2010) and 34th (2010-2011). He was elected mayor in 2006 with 61.6 percent of the popular vote against the candidate of the Democratic Party (DP) with 27 percent. His popularity could not last long, as the percentage by which he won the election dramatically decreased from over 30 percent in the 2008 mayoral election to 0.6 percent in 2010.[28] In addition, the media reported that his victory was due to landslide wins in the three GANGNAM districts.

Mayor Oh's second four-year term began with already increased political opposition, visible in the 5th local election on 2 June 2010. In the Seoul Metropolitan Council, the opposition party (the DP) turned into a majority (DP: 79 versus GNP: 22: see Table 6.2). The newly elected superintendent of education of Seoul was somewhat progressive in his pursuit of policy-making; and most borough leaders (21 out of 25) were members of the DP. As Table 6.2 illustrates, the complexity of Korean politics over the decade is characterized by regime changes between the two political parties – the Grand National Party (GNP) versus the Democratic Party (DP) at different levels of government. The dark dotted line indicates the moment of the mayoral change of Seoul to the first-ever former civil activist mayor Park Won-soon.

power of local governments to carve out their own future. The central government might still exert strong influence on local authorities and economies through various means. Nonetheless, its reach and control over deciding on the local vision and development priorities are not as absolute as they used to be in the era of authoritarianism.

[28] The mayor of Seoul, like all local government leaders, can serve a maximum of three four-year terms.

Table 6.2. The dynamics of Korean politics since 2001

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 ~
Cross-scale combination	Progressive + Progressive	Progressive (president) + Conservative (Seoul mayor)						Conservative + Conservative			Conservative (president) + Progressive (Seoul mayor)		
President, turnout	The 8th President of South Korea, *Kim Dae-Joong*, (DP), 16th election (80.7%)		The 9th President *Roh Moo-hyun* (DP → Uri Party), 17th election (70.8%)					The 10th President *Lee Myung-bak* (GNP), 18th election (63.3%)					The 11th President *Park Geun Hye* (Saenuri Party), 19th election (75.8%)
The national assembly, turnout	16th general election (273 seats), GNP (133), Democratic (115), (57.2%)				17th general election (299 seats), Uri Party (152), GNP (121), (60.6%)			18th election (299 seats), GNP (153), Pro-Park alliance (14), Democratic (81), (46.1%)					19th (300 seats), Saenuri (152), Democratic (127), (54.2%)
Cross-scale combination	Progressive + Progressive	Conservative (Seoul mayor) + Conservative (heads of borough and members of the City Council)								Con + Pro	Progressive + Progressive		
Mayor of Seoul, turnout	Mayor *Goh Kun* (DP), (46.5%)	Mayor *Lee Myung-bak* (GNP), (45.7%)				Mayor *Oh Se-hoon* (GNP), (49.8%)				Mayor *Oh* (53.9%)	Mayor *Park Won-soon* (DP), (48.6%) (By-election)		
Heads of borough (25)	DP (19), GNP (5)	GNP (22), DP (3)				GNP (25)				DP (21), GNP (4)			
Seoul City council	(94 seats) DP (78), GNP (15)	(102 seats) GNP (87), DP (14), DLP (1)				(106) GNP (102), Uri (2), DP (1)				(106) DP (79), GNP (27)			

Source: National Election Commission of Republic of Korea (NECRK) (2013).
Notes: The DP is the liberal, Democratic Party whose inaugurations for each position are colored in yellow; dark yellow is a combination of two levels of progressive adaptive systems. The GNP is the conservative Grand National Party; purple, dark purple means a combination of two levels of rigid adaptive systems. Red-rimmed dimensions refer to the emergence of cross-scale combination of adaptive systems with differing political origins and inclinations. The Korean political system has a single five-year presidential term. The national assembly is the unicameral legislature of the country with 246 members directly elected and 54 allocated by proportional representation as of the 19th general election. Minor political parties such as United Liberal Democrats and Democratic Labour Party are excluded.

The local political situation of Seoul gave birth to recurrent and increasing hostility between Mayor Oh and other elected officials, as epitomized by the former mayor's rejection of the free school lunch scheme that was introduced by the liberal DP. Amid the growing demand for welfare benefits in Korea (Kwon and Holliday, 2007), Mayor Oh did not oppose the free lunch policy *per se*. Instead, he argued that the local authority could only afford to offer the universal free lunch plan to 30 % of vulnerable groups of children in Seoul. On the contrary, the DP argued for universal benefits. The former mayor called for a local referendum over the free lunch issue. Consequently, however, the referendum result was rejected, as the turnout (25.7%) was below the required voting rate (33.3%). Just because the referendum was rejected did not mean that Mayor Oh had to resign his mayoralty. Yet, he resigned as mayor on 26 August 2011 because he had promised that he would do so in the case of any failure in the referendum.

In addition to the free lunch referendum, other issues and events opened discursive space through which differing ideas and visions clashed. It is worth mentioning that

changes in party and presidential approval rating, the suicide of the ex-president Noh Moo-Hyun (2003-2008; DP) in 2009, or other events such as the Yong-san fire disaster that killed five evicted residents and one riot policeman in 2009 might have directly and indirectly impacted on the mayoral change. NI 2 (2012) gives an account of various causes of the mayoral change:

> "Seoul city recently suffered three consecutive years of urban flood. We could not respond to the first year's flood; the scale of the next year one was not that big. The year before last [2010], however, saw a relatively big flood in Gwang-hwa Square and the areas such as Gang-Seo and Yang-Cheon. We had learnt much from this flood so that we could better respond to the urban flood in Seoul in 2011. In the meantime, we analyzed their official announcements and policy in response to the floods over the three years. Yet how on earth can any government lay out such a high cost DRR plan of $17 billion in five days right after the flood occurred? This is why we made a fuss over their reaction to the flood, for example through contributing to newspapers. At that time they could not just avoid their responsibility to talk openly to the public and civil society as they did last time. I believe that how public opinion is delivered defines its formation as well. We refuted their logic stressing that whilst the Seoul government tried to avoid their responsibility [calling the floods God's work], the floods were man-made events, and the government failed to communicate with the citizens. As a result, their causal account of the disasters crumpled. Not only these but also the situation that Mayor Oh's popularity was already seriously eroding made the urban floods much more controversial" (parentheses added†).

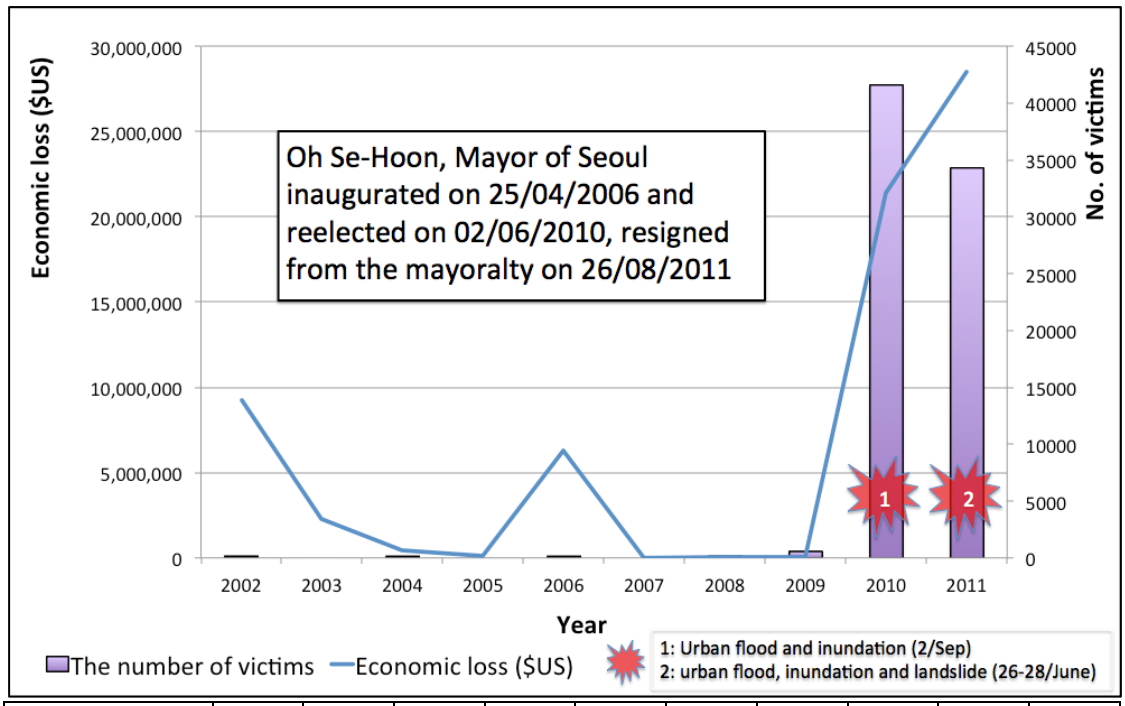
This argument is also partly upheld by the data used in the graph below of the impacts and repercussions of recent environmental hazard disasters (Figure 6.4).

6.4.2.2. Environmental risk as a catalyst of loss of political legitimacy

As shown in the chart below, three months after re-election, Mayor Oh's administration faced the unprecedented urban hazard disasters. The dramatically increased repercussions of urban natural hazards in 2010 and 2011 possibly meant totally novel challenges to Mayor Oh's administration. It might be hard to argue that political responsibility for current urban disasters should be exclusively attributed to the incumbent government; even though the latter is primarily charged with protecting its citizens from disaster risk. In addition, as the then government underlined, the record rainfall in the summer of 2011 – 587mm for three consecutive days – was unprecedented. The thesis does not aim to search for root causes of the urban disasters.

Of importance here is that climate change is expected to bring about more unprecedented disaster events in the future; and these are likely to have much more complex political ramifications. Therefore, it is critical to comprehend if and how the urban disasters led to critical thinking amongst various actors/groups in the urban governance regime.

Figure 6.4. The economic loss and victims of natural disasters in Seoul (2002-2011)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
The death toll	0	1	1	0	0	0	0	1	3	22

Source: Based on NEMA (2011).

In response to the urban catastrophes, the previous Seoul local authority released a "new" 772 billion won (about US$700 million) plan for expanding sewage and flood pumping stations. This plan came out just two days after the outbreak of the urban flood on 21 September 2010. Four days after the tragic landslide killed 18 citizens on 26 July in 2011, the government yet again released another "reportedly new" five trillion won (less than US$ 5 billion) plan for expanding the drainage capacity in the long run; even before putting into practice the previous year's new plan. The government also made a promise to immediately aid the victims and disaster-torn communities. However, these improvised, reactive measures failed to pacify the disaster-torn community as well as the electorate of the looming by-election that Mayor Oh himself was facing. The opposition DP (Democratic Party) immediately

responded to the urban disasters by critiquing the failure of the Seoul government to prevent the urban disasters. At the end of September, they launched a parliamentary inspection of the local authority; but Mayor Oh refused to attend it. Several comments made by the local lawmakers at the inspection need be considered as follows (Chun, 2011):

Table 6.3. Comments made at a parliamentary inspection

DP 1	"Last year, boughs, branches, and dry avalanche blocked the sewage that recurred this year for the same reason. Wholly insufficient reconstruction increased the damage."
DP 2	"Professor Lee, Soo-gon had submitted a proposal for suggesting policies to prevent the landslide disaster before the crisis occurred, but he was totally ignored by the Seoul administration and Seo-cho gu office. This is dereliction of duty."
DP 3	"The conclusion of the investigation report that defines the landslide crisis as a natural disaster sounds very absurd. Among the participants, there were no experts in the given issue of DRR: all of them were engineers."
Professor Lee, Soo-gon	"In Korea all such disasters are conventionally defined as a natural disaster. This cannot be solved within Korea. We should invite international experts in the area of landslide disasters. We need those who can objectively investigate the cause of the disaster."
GNP 1	"Isn't it right that the findings of the investigation have fundamentally become invalid? Three participants in the investigation are disciples of the fact-finding committee. Needless to say, reinvestigation is necessary"

Source: Adopted from Chun (2011: no page)†.

Interviews with scholars of DRR and environmental activists show that the urban inundation and landslides crisis created a public sphere in which opposition parties and NGOs could criticize not only the failure of disaster management of the previous local authority but also other engineering development projects under the Design Seoul plan (NI 2, 2012, NI 5, 2012, RAI 3, 2012).

In sum, it is hard to claim that the urban disasters were the immediate cause of the resignation of Mayor Oh Se-hoon, or that they would continue to place the conservative GNP in grave peril. Indeed, the 2012 presidential election saw the emergence of another GNP candidate president (see Table 6.2), the daughter of the former president Park Chung-hee (1962-1979) who is now gaining dual fame for the rapid modernization versus authoritarianism with abuse of human rights. Nonetheless, the mayoral change represents much to Korean politics, particularly the politics of environmental risk that the following section will discuss.

6.4.3. The implications of the mayoral change for hazards resilience

Park Won-soon, a former-human rights lawyer and civic activist without any former experience as a politician, decided to participate in and finally won the 2011 by-election for Seoul mayor. Despite his furious activities in the civil movement over two decades, with his low approval rating (5% at best) at the beginning of his mayoral campaign it looked nearly impossible for him to defeat the competing candidates such as Ahn Cheol-soo (independent) and Na Gyeung-won (the GNP). Soon after having a talk with Park, Ahn Cheol-soo with the highest popularity rating unconditionally left the mayoral campaign, declaring for Park Won-soon. This demonstration of support played a key role in Park Won-soon's election as mayor of Seoul.[29]

6.4.3.1. The connotation of the new mayor in Korean politics

This was an extremely critical moment for Korean politics. First, no independent candidate has previously won such a major election in the history of Korean politics. Mayor of Seoul is thought of as "the second-most powerful job" in the country (Williamson, 2011: no page). It might be premature to see it as concrete evidence of the crack in the long-established two-party system of the DP and the GNP (see Table 6.2 and footnote 31). Of course, his candidacy was supported by the DP after he won the DP primary election; he also then became a member of the DP after his inauguration for Seoul Mayor. Yet, the mayoral change is meaningful because it constituted the first regime change, not based on the logic of representative democracy, but on the people's decision to give a clear mandate to a candidate without intimate connection to formal politics. Indeed, Park had to set up the "Park Won-soon Fund" because he did not have enough funds for the election campaign. It took just 52 hours to collect 3.3 billion Korean won (equivalent to about $US 2.9 million), owing to citizens' voluntary participation (half the 5778 participants were micro-donators).

Second, related to the above, it has already been noted that the narrow ideological spectrum has long produced discursive distortion for such issues as social welfare and DRR. Not unexpectedly, ample evidence (e.g. news articles) illustrates that the candidate Park was also branded as a 'commie' and pro-North Korean by some GNP

[29] The former medical doctor, successful IT businessman, and professor of business, Ahn Chul-soo who later ran in the 2012 presidential election is a rising star in Korean politics. Despite again withdrawing his candidacy in favour of the DP candidate in the election, his recent political success (later elected as a legislator) reflects the people's changing expectation of politics in Korea. Like Park Won-soon, Ahn has not registered any party, meaning that the virtual two-party system (the DP and the GNP) has begun slightly to lose its solidity.

lawmakers and the conservative media, during and after the election. His election, with 53.4% of the vote, means that the use of ideological/discursive distortion no longer worked that well in the election. It should be also noticed that he overwhelmed the opposing GNP candidate in the election in every district, except for the three GANGNAM districts and *Yongsan* district; note that the previous mayor's small victory margin in his second-term mayoral election was largely due to the landslide victory in GANGNAM.

Third, no previous mayor of Seoul used social media as means of communicating with the citizens as much as Mayor Park. With more than 700,000 followers on Twitter as of June 2013, he has used it not only to announce new policy ideas but also to communicate about everyday life with them. Although the latter might not be the primary reason for heavy use of Social Network Service (SNS), as will be argued later, it also has helped build trust and fostered real-time exchange of disaster risk information. This new attempt at communication is meaningful as it is expected to shake, to its very foundation, the orthodox structure of the public sphere (Schmidt, 2008) – which has until recently been dominated by a few allied groups (e.g. the winners from compressed development).

6.4.3.2. Addressing the high risk perception before Park's mayoralty

If the thesis is to discuss the impact of the mayoral change on Seoul's hazards resilience, it is important to understand the origin of Park's particular concern with environmental risk. Eight months after his election as mayor of Seoul on 17 June 2012, he was elected chairman of the World Mayors Council on Climate Change (WMCCC), and has held the position since October 2012. His non-ephemeral interest in the issue of environmental risk goes back to the period of time when he was working as head (and founder) of the Hope Institute that organized the first-ever, citizenry research institute for DRR, funded by POSCO (multinational steel-making company), and the Disaster Management Institute (see http://disaster.makehope.org). Although this business has temporarily been inactive as of 2009, perhaps with the end of the stipulated time for the fund, it is considered to have underpinned the evolution of participatory DRR in Korea in vital ways.

The first head of the Disaster Management Institute accounted for the evolutionary process of citizen participation in DRR as follows:

> "Travelling around the country we held a lot of seminars, and due to the Hope Institute, the conference on crisis management was founded. For one thing, that was a kind of voluntary movement of citizens, because during all the seminars from Jeju to Gang-won province we investigated disaster-torn communities, again held seminars and met the disaster victims, found out about and revealed the causes, and then researchers got together, and through these processes committee members [of the Disaster Management Institute] and researchers joined them, and with the funds we ordered disaster studies. Five books came about then that were all awarded the National Academy of Sciences Award. Continuing efforts by researchers led to the establishment of the International Conference on Emergency Management…The establishment of the academic spheres for risk and crisis management, such as the International Conference on Emergency Management and the Korean Association for Crisis and Emergency Management, would not have been possible without the Hope Institute and mayor Park" (RAI3, 2012, parentheses added†).

Indeed this is completely different from the atmosphere of the academic sphere for disaster risk management, as he continues to explain:

> "In the past [20 years ago] it was extremely difficult for us (then a few social scientists who researched the issue of hazard disaster risk and crisis) to have our articles published in social scientific journals. The editors might have considered our work unfamiliar and even bizarre" (RAI 3, 2012, parenthesis added†).

There is also the question of why Mayor Park has had such a high interest in the given issue. When questioned about this, RAI 3 (2012†) suggested that:

> "Well I don't know much about it, I've never got inside of his head. Yet, when I was working for the Disaster Management Institute, I felt that he thinks DRR as the first duty for mayor. If government cannot protect citizens from risk disasters, what is the rationale for government to exist in the first place? At that time when he was the head of the Hope Institute, we used to have a lot of discussion together, he showed us hundreds of photos of disaster risk management he took during his visits to foreign countries, I was really surprised...I guess that probably he obtained the experience and policy ideas in terms of DRR at that time."

However, this passage does not clearly account for why he is so interested in DRR issues. Much clearer is the connection of his current approach to DRR in Seoul with the past learning experience he accumulated as a civil activist. In addition, this might

be one of a few practical, collective attempts from the bottom up to satisfy the high interest in, and awareness of, environmental risk (c.f. the LCGG during the Lee Myung-bak presidency).

In addition to the Disaster Management Institute, Park founded many NGOs and fundraising organizations. Some personal opinion of his leadership was heard from one former staff of the Hope Institute (now working for the Young Foundation in London):

> "He has countless new ideas with a big dream. He often suddenly suggests new ideas, "let's make a project 1000 jobs!", for a genius, charismatic leader…if his creativity is to continue, the organization needs much more than him alone. I personally think creativity comes out of exchange of ideas among many other people; he has too many creative ideas. So, the work in the Hope Institute was too tough. But he does not stay in one organization more than five years, made and left and made and left the organizations. He always leaves organizations he made…actually, I thought that mayor Park and President Lee Myung-bak resembled one another in their extremely strong impetus and ability to mobilize people. In the case of President Lee, the FRRP was done quickly and in a compressed way. I think Mayor Park is the same" (NI 3, 2012†).

Certainly, she does not denounce Mayor Park and President Lee wholesale, but points to the importance of leadership to make a difference in the context of Korea's public sphere. Indeed, leadership appears to be critical when an organization requires social innovation (for the definition of social innovation, see Chapter three). In line with this thinking, PAI 2 (2011) and NI 4 (2012) also make it clear that, in the context of Korea, the changes necessary for local governments' CCA have greatly depended on the type and willingness of the local leadership. Yet leadership should not be narrowly conceptualized in terms of the ability to bring about change, if it is to elicit wider participation of the people in CCA. This point has already attracted analysis from many scholars of leadership (Williamson, 2011). Thus, a single entrepreneur is not sufficient because social innovation concerns structural, normative and discursive changes that one actor cannot bring about. This is why theorists of institutional change pay greater attention to "collective action" in addition to "mobilization" and a "reflexive shift in consciousness" when accounting for institutional change (Seo and Creed, 2002 and see Figure 3.3). When a leader with such bottom-up experience of DRR was given a mandate to extend it throughout the wider political landscape, what would happen, in terms of hazards resilience?

6.4.3.3. The mayoral change: momentum for the building of hazards resilience

On 30 November 2011, the report of the first investigation concluded that the crisis was a "natural" disaster without anthropogenic drivers (see above). With this conclusion, any responsibility of the then incumbents in charge of DRR was denied, despite the huge loss and damage; indeed, this can largely impact on the lawsuit between the victims of the crisis, Seoul government, and Seocho-gu (district) office. At the beginning of his term, Mayor Park immediately committed to carrying out a reinvestigation of the landslides crisis: more precisely, to identify any man-made aspects of the disaster. It took another eight months for the new mayor finally to launch the reinvestigation process in the summer of 2012. It is crucial to explore how the process came about, who was involved in the process, and most importantly to what extent the reinvestigation has reflected the bottom-up critiques of the conventional manner in which urban disasters triggered by natural hazards are de-politicized.

On the one hand, the decision to reinvestigate came as a result of a quasi-network of the victims, environmental NGOs and critical scholars, who pressed the Seoul government to reinvestigate the disaster site. More investigation was required to look into the omitted areas of the disaster site. The alliance was partial, if critical, in that their major concerns were not the same (NI 2, 2011). An environmental activist who had been deeply involved in the risk governance space since the occurrence of the crisis expressed his thought that "the victims were more interested in the issue of compensation than fundamental issues such as exploring the cause of the crisis and finding a fundamental resolution for the future" (ibid.). Nonetheless, it is clear that the network contributed to Mayor Park's decision to reinvestigate the disaster. The residents living in the disaster-torn towns stressed this point later at the hearing on the result of the reinvestigation (SI, 2012). On the other hand, however progressive a perspective the mayor might have, without the press to unearth social roots of the problems, such corroborative investigation would not have been possible. The role of the scholars who consistently provided critical ideas, which often collided with the researchers involved in the investigation process, was also critical (ibid.).

That said, the findings of the second investigation into the cause of the crisis, to which four foreign experts in landslides crisis were also invited, did not dismiss the

conclusion made by the first investigation that the crisis is a "natural" disaster. The new report noted dry avalanches and branches that blocked the sewage systems and the record rainfall (ibid.). Some new perspectives were included in the report such that "the crisis might be called a man-made disaster to the extent that it would have been possible to prevent the disaster if the previous government had more seriously taken into consideration and dealt with the landslides triggered by Typhoon *Kompasu* last year" (ibid.). Nevertheless, the victims of the crisis see the findings of the new report in relation to the Seoul government's intention to prepare for the ongoing lawsuits with them, by placing more stress on the physical aspects of the causes of the crisis.

Meaningful reflections are not found within the investigation report, but at the public hearing on the findings of the second investigation. For instance, the scholars who were working on behalf of the victims were not invited by the investigation committee to join the expert discussion. However, the victims' strong demand enabled them to present their perspectives, which conflicted in many ways with those of the committee. As the public hearing was planned for the victims, the members of the fact-finding committee had not expected to discuss any technical agenda (e.g. the modelling process for landslide prediction) beyond the findings at a generic level. Yet, the critical scholars triggered a hot debate on technical issues as well as normative issues. It is worth noting the counter-argument made by one of them that:

> "Well, if disasters occur, this society [Korean government] defines it as natural disaster first. It has long been like that. If some experts or activists pose questions about the conventional approach, they normally say one thing and then the opposite. Very absurd! Then they order investigations and research with pre-defined results, with which they can defend lawsuits later. Then the findings of the report play a major role in the result of the lawsuit. I have taken part in many such lawsuits so far, on behalf of families of the victims. What I have felt from our convention is that the victims or their families initially suffer from disasters, so they cry. Next, during the processes of the trial, we fail to investigate the cause of the disaster, and we cry again. Then, if we lose the trial we have to pay for the cost of the lawsuits, and we cry again" (SI, 2012)†.

This shows how Korean society has dumped the cost and responsibility for clarifying the cause of disasters on victims, and what ratchet effects disasters might have (Chambers, cited in Pelling: 16). It is hard to record all the feelings (usually anger and disappointment) expressed by the victims and their families against the findings of the

new report and against the committee and Seoul government. However, it is observed that the victims intervened to change the conventional culture of public hearings (i.e. a unilateral presentation), for instance:

> "I am sorry for intervening during the debate, but I should say this. Last Monday I received the two-page paper stating that the Seoul government has scheduled this hearing for today. After some thought, I made a call to Seoul city hall, and they said to me, the government had already chosen all the participants on the panel, and we [families of the victims] can just come and sit in. They did not express it exactly that way, but the meaning…I thought that it would be meaningless…this hearing for today would become just like a rite of passage unless I intervened. I had to come out to oppose the conventional approach to public hearings because I underwent all the processes that were keeping me dangling, and I did not know who would join the discussion, so I emailed the Seoul government to ask, "I am not an expert in the given issue, but you have to invite those who can talk on behalf of families of the victims." Differently put, the hearing would proceed as usual as in the past unless I asked, emailed them and made a fuss. So I phoned them [those scholars on behalf of the victims], and found that they had not received any materials for the debate from Seoul government. How on earth would they be able to meaningfully join the debate without preparation? So I called back the government to ask why…someone has to represent our stance. That's why I asked Professor Lee to help us" (SI, 2012: parenthesis added)†.

This is a common expression of the families of the victims, against the lack of representativeness and the conventional top-down approach to communication with citizens. However, this passage notes the possibility of citizen participation to bring about change in the discourse on environmental risk. The change in mayor has not been a cure-all for these problems. The individuals exercise agency, in alliance with other groups, to call the conventions into question.

When government fails to provide its people with basic protection against disaster risk, as was noted earlier, there is often space for institutional change to occur: in this case, the informal area of politics was able to tackle the conventional top-down approach. The mayoral change has influenced the way in which disaster risk discourse has recently evolved.

First, the decision to reinvestigate was not easy and a political burden for the mayor; it could potentially lead to huge compensation for the loss and damage. Once

institutionalized, this will probably impact on future cases of urban hazard disasters. In fact, Korean society has very recently opened up the discursive space to create a social consensus over the issue of how to deal with man-made causes of natural disasters. It is less clear how far such disaster discourse has been extended to include social causes and aspects of the disaster. None of the interviewees and other sources of data have helped answer this question.

Second, the landslides crisis appears to be a failed adaptation to environmental risk, despite many opportunities to avoid it in advance (Typhoon Kompasu in 2010, the policy proposal submitted by an individual scholar, the residents' demand for disaster prevention). It is critical to see what lessons the society has learnt from the crisis. This question is closely related to the future CCA of Seoul. Has the detailed action plan for CCA of Seoul (2012-2016) embraced such issues as the political implications of disasters or the responsibilities of incumbents for failure in DRR? The answer is certainly not. Instead, these issues will continue to be dealt with via other discursive channels such as elections, trials and many other informal public spheres.

Third, it was found that the mayoral change has brought about *undoing-effects*: in other words, the new mayor has either cancelled or extensively reduced the large scale development projects and plans set up by the previous mayor Oh. If buffering effects occur between different scales of an adaptive governance system, undoing-effects come about as a result of a regime change. The undoing-effects have a bearing on the way in which cities maintain their hazards-resilience; most importantly by tackling the influence of the various growth alliances such as Mopia and the engineering-construction mafia. Of course, the mayoral change has not brought forth immediate changes in the power relations, as not all construction of DRR facilities has been cancelled. It may be that the annihilation of such power cartels will not be possible in the near future, as they also play essential functions and roles. The point is that the mayoral change expresses one possible way of how the relationship between political and environmental change can co-evolve, and how differing ideas are generated, mediated, and compete to shape the nature of risk discourse.

6.4.3.4. The Internet space as a public sphere for disaster risk?

In the summer of 2012, the Mayor of Seoul, Park Won-soon, made, jointly with a Korean web portal company *Daum*, a webpage-based flood risk map and forums

whereby citizens could freely report blocked drains and potentially risky facilities, and express their views on how to improve disaster prevention. This was the first ever attempt by a Korean local government to open up a discursive cyber-space in which to request local participants' ideas about Disaster Risk Reduction (DRR). It was also observed that the Mayor consistently communicated with his followers on Twitter to gain real-time information about local outbreaks of flood during heavy rains and typhoons.

Of course, it is not clear how much the social media tools and the Internet actually helped actual disaster risk reduction in Seoul, due to the limited access to essential information. Cyberspace is but one of many platforms for social relations which can be used to cope with the given issue. Despite the unusual succession of three typhoons – Typhoon Bolaven (28 August), Tembin (30 August), Sanba (17 September), there was no fatality in Seoul during the 2012 summer monsoon season, even though chronic inundation of high streets occurred in some parts of the city. This thesis does not simply argue for the use of the Internet for DRR and CCA. It is already clear, however, that the Internet now offers additional, if not necessarily alternative, space for the city's hazards resilience to be further developed.

In spite of some challenges that should be overcome, such as more reliable treatment of data (SI, 2012), social media has been increasingly piloted and harnessed over the world for a variety of DRR objectives. Information sharing networks such as Crisis Mappers have been used for obtaining data about the missing and victims of disasters – Person-Finder (Google) and Anpi report in Japan – and to support a disaster recovery process – e.g. the Emergency 2.0 project in Australia. There is also a growing body of scholarly evidence that the use of social media shifts institutional arrangements for DRR (Ng and Lean, 2012, Smith, 2010) and constructs an alternative public sphere (Douglass, 2005) in which new ideas and shifted power relations have practical impacts on DRR, and possibly CCA.

6.5: Conclusion

This chapter has explicated the co-evolving process by which political reflection on urban disaster occurs as a part of a political regime change. The argument was not that the landslides crisis directly caused the change of mayor. Instead, the reoccurrence of urban disasters and the failure of the previous mayor's orthodox DRR were enough to bring about a new governance space before and after the landslides crisis. In this new governance space, alternative ideas that had previously been ignored gained more attention and support, although the orthodox engineering-based DRR strongly resisted the winds of change. For many reasons, as described in this chapter, the landslide crisis was a typical example of dual-risk on the grounds that the cause of the disaster can be ascribed to rapid urbanization, the lack of public-private partnership and the previous exclusion of civil society from the risk governance process. The first election of a former civil activist who belonged to no existing political parties as mayor can be seen as a symptom of the breaking of the old political structure and culture. At the same time, it is evident that the marginality of environmental risk in public discourse seems to have gradually changed after the election of the new mayor. It remains to be seen how far the urban resilience specific to disaster risk will be further fostered by the new political regime.

Theories of institutions and institutional change have been inclined to overlook the role of disaster or environmental change in triggering institutional arrangements. In particular, scholars of dual-risk have focused on explaining the ramifications of compressed modernization and reflexivity, nearly exclusively in the context of technical, social and economic risks. Although a natural hazard is but one of triggering forces of an urban disaster, climate change will continue to question the adequacy of urban resilience in Seoul and other cities. In particular, the coexistence of spatiotemporally heterogeneous ideas and values in Seoul, which continue to compete in the situation of urban disasters is of great concern. In the following chapter, the case of imported dual-risk will be discussed in the context of Jeju Island.

Chapter 7: Jeju, imported dual-risk (the naval base construction)

7.1: Introduction

Evidence of dual-risk in Jeju was less clear at the early stage of the fieldwork, compared to that of Seoul; its endemic, modern history shows the lack of constitutive elements of compressed development such as the intimate relationship between politics and business (*Chaebol*), rapid industrialization and, rapid urbanization.

Indeed, Jeju has remained on the periphery of the national compressed development. There are crucial aspects of adaptation to environmental risk in Jeju that the discourse of compressed development and the dual-risk thesis are not fully appropriate to clarify. Of course, the past authoritarian government's five-year economic development plans raised the massive development of tourism and fruit industry, and contributed to the construction of socio-spatial identity of Jeju. Thus, the local developmental path of Jeju can be generally understood in the wider context of the national, modern transformation, impelled by strong governmental intervention. Nevertheless, the manifestation of environmental risk and following political reflections in Jeju have taken a very different shape and direction to that of Seoul, due to the turbulent history, traditional social capital, and a hostile sentiment against external capital and central government.

This chapter seeks to suggest that external capital, a central government, and globalization have rather *imported* dual-risk to Jeju society that has less local contributed to its formation. Imported dual-risk is observed in rapid urbanization processes, focused on the construction of a naval base, and associated land use changes, weakening local social capital, loss of community identity, and a tendency to underestimate disaster risk in Jeju. Contradictions arising between the recent pressures for urban development and the strong local institutional assets embedded in the local history of Jeju society have not been incorporated into local and national plans for CCA. Relying on informal interviews and documents, an argument is made in this Chapter that the disparity between centralised development trajectory and local values shapes new disaster risk in Jeju. Following this introduction, this chapter first presents disaster risk and its perception in Jeju; second, it explores social and historical root of risk in Jeju; third, the chapter suggests construction of the naval base as a case of

imported dual-risk; and last, the chapter concludes by broaching the difficult problems of social innovation.

7.2: Disaster risk and its perception in Jeju

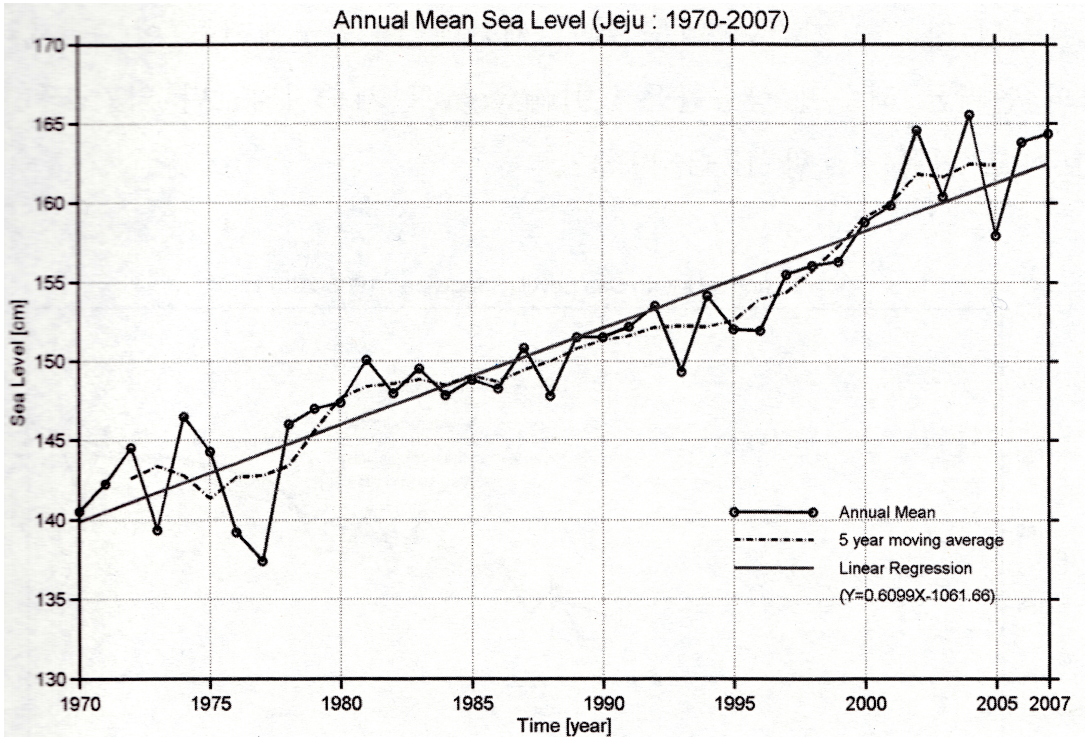
The pilot research in 2010 indicated Jeju as a place of high awareness of climate change risk in Korea. In particular, the local authority was seen to be making preemptive and pioneering local initiatives for responding to climate change (e.g. the Model City Project for Responding to Climate Change, NI 14, 2011). At the southernmost part of the Korean peninsula, the island also has a subtropical environment and climate change-prone industries (tourism and orchard industry) through which diverse inquiries into climate change risk can be provoked in the future.

In addition, "Jeju seems almost the only place in Korea in which residents, with great interest in overall and particular development issues, examine the past developmental path" (Lee, 1995: 99)†. Even further Kim (2010b: 81)† argues that "Jeju people have started to take critical perspectives to transfer the pre-existing policies of the development after Typhoon *Nari* in 2007." These observations led to the selection of Jeju as the research site, indicating a distinctive and engaged local culture that would contrast with that found in Seoul.

7.2.1. Physical indicators of climate change risk

There are an increasing number of scientific accounts of physical indicators of climate change and variation in Jeju. For example, the sea level rise around Jeju Island has reached 225.7mm over the last four decades, that is, a nonparallel increase of about 6.10 mm per year as shown in Figure 7.1. No definitive reason has been given for such rapid sea level rise. This, however, appears to be linked with the freshwater run-off together with a changing climate (JDI, 2010a).

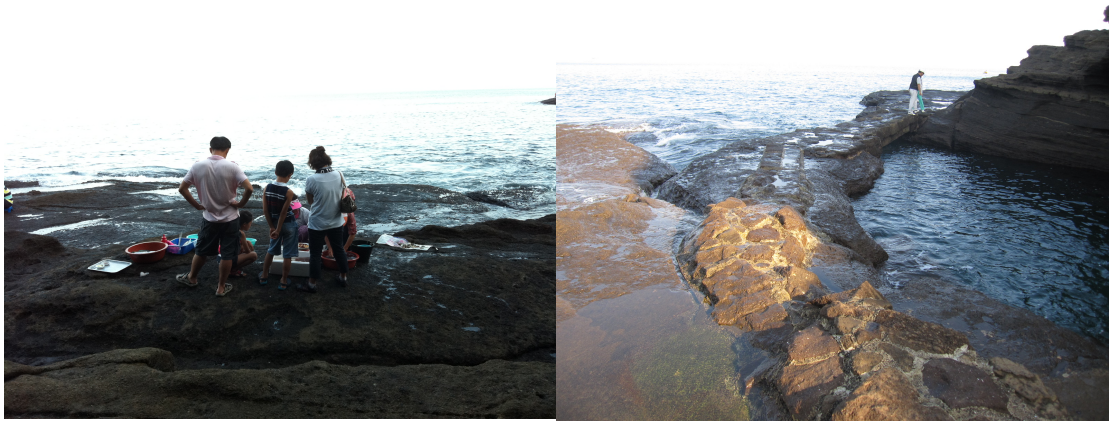
Figure 7.1 Annual Mean Sea Level (Jeju: 1970-2007)



Source: Adopted from JDI (2010a).

The physical change is not the only important point. The local authority has attempted to use the partial evidence about the sea-level change to raise awareness of the severity of climate change risk (with e.g. the information center for climate change at the *Yongmeori* coast). Accordingly, this led to a visit to the coastal area. As old, local female divers (called *Haenyeo* in Korean) catching and selling sea products at the Yongmeori coast said, "there was not inundation of the Yongmeori tuff ring area, even during the high tide, when I was a child" (LRI 2, 2011). Besides environmental changes, the discourse of national security threatens their means of livelihood (see below). The point here is that the early phase of the fieldwork already captured awareness of climate change risk. The public access to the causeway in the right-hand photo in Figure 7.2 is already been restricted during high tide.

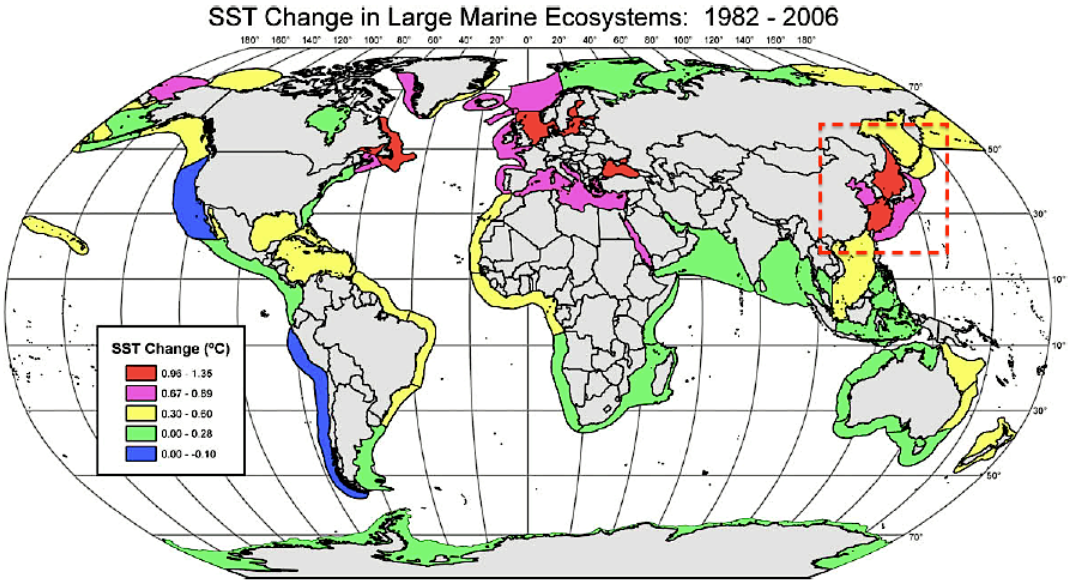
Figure 7.2. Female divers selling sea products at the Yongmeri coast



Sources: The author.

Amongst other local indicators of the impacts of climate change are ecological changes, such as the changing vegetation in Mt *Halla* (Kim, 2008b), the changing marine species, and the moving north of citrus plantations to the mainland of Korea (JDI, 2010a, JDI, 2010b). It is also evident that various local groups are fully aware of intensifying rainfalls in Jeju (RAI 8, 2011, NI 14, 2011). The changing Sea Surface Temperature (SST) of the adjacent seas, as seen in Figure 7.3, is also a critical sign of environmental change in Jeju (Belkin, 2009, Ho et al., 2004, cited in JDI, 2010a).

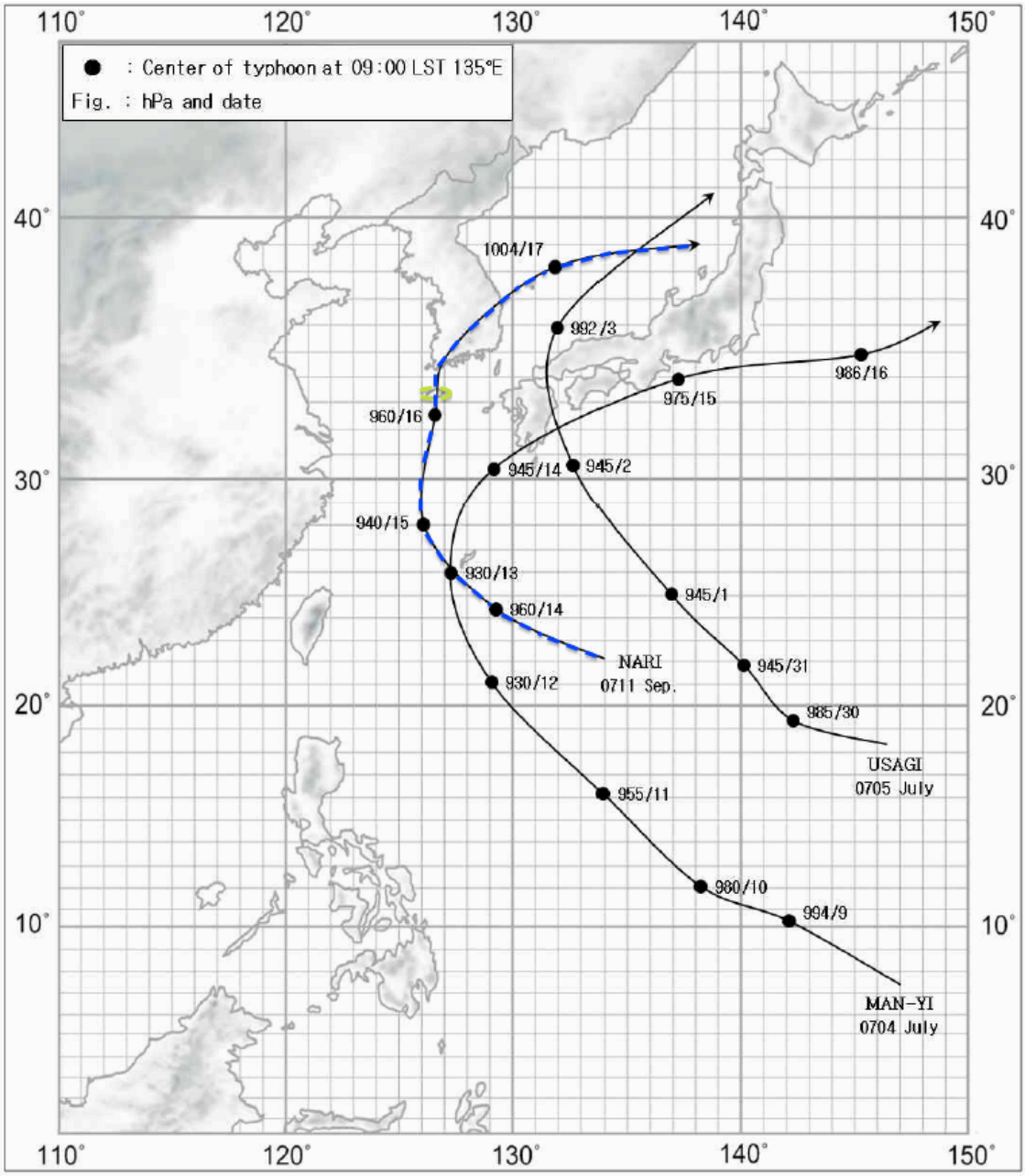
Figure 7.3. SST Change in Large Marine Ecosystems: 1982 ~ 2006



Source: Adopted from Belkin (2009: 211).
Note: The dotted red box indicates the sea around Jeju Island

The above-mentioned environmental changes are of great concern to government and the people of the island. This is because they are expected to bring about new risks that could exceed the present level of resilience and adaptive capacity of the island. Typhoon *Nari* in 2007, which devastated the island, is one *so-far-known* case by which to anticipate future impacts of climate change on the island. A typhoon is quite a familiar natural hazard to Jeju as well as Korea. Yet, the scale of loss and damage was unprecedented, the greatest of all typhoons to have affected Jeju over the last five decades with 13 casualties and about 130 billion Korean Won (equivalent to $US 114 million) in damage. In fact, the size of the typhoon was not exceptionally large, compared to those of the catastrophic typhoons Rusa in 2002 and Maemi in 2003. As demonstrated by Figure 7.4, however, the weakening typhoon (with day maximum rainfall of 420mm), unusually, penetrated through to the *heart* of the island on 16 September 2007.

Figure 7.4. The path of Typhoon Nari in 2007



Source: Modified from KMA (2011: 205).
Notes: The dotted blue line indicates the path of Typhoon *Nari.* The paths of other past typhoons in Korea are provided for comparison (see Chapter thre).

The typhoon *Nari* disaster shows that even familiar/known types of hazard can have unexpected ramifications. In fact, this is exactly why Cutter's (1993, cited in Mustafa, 2009) conceptualization of risk that includes consequences in addition to probability can capture fuller aspects of risk. In addition to the unexpectedness or abnormality of the hazard, the recent rapid urbanization process is claimed to have been related to the unprecedented scale of loss and damage from the typhoon (RAI 8, 2011). At the same

time, however, local NGOs and academics expressed less confidence about their own claim for the correlation between development and the huge typhoon impacts. Accounting for this needs be integrated with a generic local perception of disaster risk.

7.2.2. Perception and the tendency to underestimate environmental disaster risk

> Jeju confronts strong typhoons and heavy rains almost every year, but I never heard of inundation in Jeju when I was a child. Inundation is a very recent phenomenon in Jeju (RAI 8, 2011, in his late forties†).
>
> Jeju is famous for its abundance of three things: Winds, Rocks and Women (Korean saying†).

How, then, have the environmental changes and their increasing impacts recently been perceived in Jeju? Of course, the answer to this question should be different depending upon who are questioned and which disaster impacts are discussed. Chapter five presented the increasing perception of environmental risk and how institutional rigidity and existing power relations are reinforcing the marginality of environmental and climatic risk in Korean public discourse. Much the same can be said of Jeju, but the reason for the marginality is slightly different, due in part to the social milieu and history of Jeju society.

It was observed during field work that the islanders in general still pinpoint the geological characteristics of the island (volcanic geology) as preventing natural hazards such as typhoons from triggering disasters such as flood and inundation. This was the case even after the recent catastrophic event of typhoon *Nari* in 2007.

The current research was able to respond to an earlier study of perception *Farmers Perception of and Adjustment to Typhoon Hazards on Cheju* [translated as Jeju in this thesis] *Island, Korea* (Kim, 1989) informed by the tradition of behaviorism in hazards research (e.g. Gilbert White, Ian Burton). This research has been rare in Korea until recently, and is invaluable to help understand the adaptation of Jeju to risks from natural hazards. Kim's work stops short of scrutinizing how the hazard and risk perception and actual impacts of environmental risk are dealt with *politically*, to reflect on the first phase of modernization of Jeju. Still, the research does reveal how a certain group – Jeju farmers (based on their perception of typhoon hazard and risk, and social capital) – adapt to the typhoon disaster risk, taking social, cultural and historical

contexts into account. It is argued that the farmers had a much higher sense of "self-reliance" and "independence", as opposed to "exclusivity" against, the mainlanders, due to the island's "turbulent history, involving popular rebellions, invasion, [and] political upheavals spilling over from peninsular Korea" (Kim, 1989: 96)†. This historical context has been enshrined in such unique socio-cultural traits as their dialect, family and marriage institutions, and particular strong local ties of social capital (called *Gwon-dang* in Korean and *Gwen-dang* in Jeju dialect, see below). Of significance is that the awareness and experience of typhoon hazard and risk among farmers ironically led to "a tendency for them to underestimate their actual suffering from annual typhoon hazards" (ibid: 110).

Interviews found that a similar tendency was still evident in Jeju (NI 11, 2011, NI 12, 2011, RAI 7, 2011). When questioned about any perspective they might have regarding the implications of recent urban development for environmental hazards in Jeju, NI 11 (2011†) a local environmental NGO, makes it clear that:

> "I am a member of the Committee for Environment Impact Assessment. During an assessment process, we do not take the issue of disaster risk so seriously. This is because Jeju Island does not have the type of geological environment in which mal-development can bring about landslides crises as in other places [the mainland]…in the case of Jeju Island, which is covered by volcanic deposits, absorption of water by the surface is very fast. Such hazard disasters as floods and landslides are unheard of."

This perception is commonplace; another interviewee even went further to assert that Jeju is not a proper case for the current research and that the research site should be changed, given that natural disasters rarely occur in Jeju (RAI 7, 2011). Of course, these remarks should not be construed as signifying their absolute ignorance about or indifference to environmental disaster risk *per se*. Much clearer from these views is that the tendency to underrate the severity of risk from natural hazards is still prevalent in Jeju in a way that fails to address the underlying social cause of disasters. If this observation is not erroneous, a few local voices for altering local priorities and greater emphasis on environmental sustainability after typhoon *Nari* require additional attention (Kim, 2010b).

The informants reveal that structural constraints prevent bottom-up criticism from

feeding into plans for projects and practices of development. They speak out about the difficulty of obtaining, and/or the limit of, scientific evidence. RAI 8 (2011†), a local expert on water resources, explains the complexity of the geological features and structure of underground water in Jeju:

> "For urban planning, especially large-scale development of apartments in the mainland, the use of rainwater [for the purpose of risk reduction] should be approved in advance. I think that this should also be applied to urban planning processes in Jeju, but it is not easy in reality…The water permeability rate is already very high due to the geological features of the island, but there are also more than 5000 ground-water holes in Jeju. Urban development of upstream [mountainous] and downstream [coastal] regions might construct a situation in which the causes and impacts of hazard disasters are created in different places. For instance, hotels in the New Jeju City area [coastal area] fully rely on ground water. Yet, it is highly plausible to assume that development in a mountainous area [e.g. golf resorts] can change the existing flow of ground water, thereby affecting those of downstream areas. This correlation between developments, which are geographically distant from one another, is extremely hard if not impossible to clarify" (parentheses added).

A local expert working for a government-affiliated research institute made this argument. Simply put, not only pre-existing urban development but also the complex geological features, precluding essential DRR facilities (e.g. for rainwater storage) are both reckoned to generate exposure to disaster risk. Local geological complexity is not unfamiliar to local environmental activists. Nonetheless, NI 11 (2011†) only *partially* agree with the above claim:

> "Research into the complex correlation and geological features is possible and supportive of overall disaster risk reduction for Jeju but far beyond the capacity of local NGOs. I think that government-affiliated research institutes have enough capacity to conduct such research. They, however, cannot carry out such research if the local authority does not want it. If the local authority prioritized environmental conservation over development, the institutes together with us would be able to deal with the given issue more seriously. Otherwise, the institutes cannot help catering to the local authority. Jeju is where the local government has enormous power over other groups such as the local press."

Undoubtedly, another reason why Jeju society has not seen much experimental social research so far is clearer: the rigid political structure is a constraint (for the same issue

at the national level, see Chapter five). Unsurprisingly, the nature of political leadership and political culture largely influence the scope of explorative activities for building hazards resilience. More evidence for this argument will be considered in Section 8.3.

The lack or difficulty of scientific research into environment-society relationships is not exclusive to Jeju as the case of the public sphere after the Mt. *Woomyeon* landslides crisis in Seoul reveals (see Section 6.3). As will be addressed later in this chapter, constraints in existing, rigid institutional arrangements have hindered opportunity for learning for risk reduction and hazards mitigation. Suffice it to say that the triangular relations amongst climate change, disaster risk and development have yet to be taken seriously in Jeju, despite the need for this being loudly stressed elsewhere (Schipper and Pelling, 2006).

It is necessary to note how the local authority and central government reacted to typhoon *Nari*. Amongst other things, these were the designation of Jeju as *a special disaster zone*, construction of a dozen detention ponds in upstream, mountainous areas, and encouragement for residents to take out storm and flood insurance. Again, these technical and reactive measures would be helpful for maintaining the hazard resilience of the island society, but partial, in the case that exposure to both familiar and uncertain hazards in any unprecedented way would lead to entirely novel risks and consequences (Mustafa, 2009). In addition, some of the retention ponds have already been critiqued for various reasons: for example, being located in mountainous areas (rather than adjacent to disaster-prone coastal areas) and inadequate maintenance (NI 14, 2011, RAI 8, 2011). The local press also anticipates potential risk from the lack of collaboration between different departments of the provincial government office: e.g. between the construction of retention ponds (disaster mitigation) and ecological restoration of urban rivers (Ko, 2013).

In the above situation, the need for proactive adaptation comes to the fore. As a matter of fact, it is not true that the local society lacks any institutional tools for proactive adaptation (e.g. Pre-Environmental Review System and Environment Impact

Assessment)[30]. Yet the current urban circumstances, on which urban life and livelihoods rely, was composed before such regulations came into existence in the mid-1990s. Even further, enforcement of the regulations has been neither stringent nor appropriate to their initial purpose. How easily these regulations have been ignored or misused (to indulge in development activities) will be analysed below with reference to the construction of the Jeju naval base.

7.3: Social and historical roots of risk in Jeju

There is a significant disparity between Jeju Island (as a peripheral geography) and urban places in the mainland of Korea, in terms of the developmental path to building its current socio-spatial identities. Diametrically opposed to other urban sites for CCA, Jeju and its informal space of local CCA and risk reduction should be understood by looking at its unique history first. Yet, this section does not devote much space to elucidating and enumerating historical events. Instead, it will address the historical contexts within which actors/groups in Jeju interpret the origins of current crises of development and environment disaster risk. The construction of locals' view of history – the coexistence of hostility towards the outside and dependence on external relations – is not unrelated to the nature of the local environment and resources. This is a kind of dilemma for Jeju; the island has long been subject to external intervention, but their major industries (tourism) require a consistent material and financial exchange with and support from the outside world.

7.3.1. The 4.3 Jeju Uprising

As was noted above and from locals' points of view, the volcanic island has a unique history of suffering from exploitative intervention by central government and external capital (NI 14, 2011). It is strongly argued in this chapter that the tendency to underestimate disaster risk in Jeju cannot be properly grasped without a historical perspective.

As a relatively recent instance, the Jeju 4.3 uprising (or massacre), that caused huge loss of life (estimated from 30,000 up to 60,000, more than one tenth of the then local population), was triggered on 3 April 1948. It lasted through the Korean War, until 21 September 1954. It is second only to the Korean War itself as regards the number of

[30] See http://www.aecen.org/sites/default/files/workshop/june2010/presentations/Eco-Asia%20Manila%20(slee,%202010-06).pdf

innocent people massacred, owing to the ideological confrontation. An official investigation into the ideological tragedy did not take place until the late 1990s. Before then (especially during previous authoritarian governments), it was taboo even to openly and publicly discuss the 4.3 incident (Heo, 1992). Only after the Special Act on Jeju 4.3 was enacted in accordance with the Truth and Reconciliation Commission by the Kim Dae-jung administration (Democratic Party) could the first official investigation commence in the early 2000s.

The Jeju 4.3 Research Institute attributes the cause of the incident to "brutal suppression by the Korean government against armed rebellion in Jeju" (Song, 2010: no page). More complexly interwoven causal factors are argued to account for the incident:

> "[T]he Jeju people's deep mistrust and anger toward government maladministration and Japanese police officers who abused their authority [during Japanese rule]; co-stationing of the local and national army with a U.S. military presence; and a controversial looming election after the partition of the peninsula. In addition to that, lingering social unrest after independence from [the] Japanese rule was another cause of chaos in Jeju" (ibid: parentheses added†).

These manifold forces might not still exist in the same manner that brought about the tragedy. Yet, recent development processes in many parts of the island have called forth similar hostile sentiment against external capital and central government. For instance, some oppositional locals regard social conflict brought by the construction of a $970 million naval base at Gang-jeong village in Seo-gui-po City as another 4.3 incident (NI 11, 2011, LRI 1, 2011). This might be because it has split the local community, and made the locals feud over the issue. Interviewees support this view that it has completely and nearly irreversibly destroyed traditional values, pre-existing community activities, social capital, and trust amongst the locals (NI 11, 2011, NI 14, 2011, LRI 1, 2011). This is but one ongoing top-down project in the island. It indicates that the issue of adapting to environmental risk in Jeju (particularly at Gang-jeong village) requires considering the way of how the islanders' resistance to outsiders at present originates in their history of external exploitation.

Equally important is that the island poses distinct environmental and geopolitical characteristics that to attract external, capitalist development based on tourism, the development of natural resources (e.g. water and wind power), and the construction of a naval base. For example, the island has earned three UNESCO awards: World Global Geoparks, World Natural Heritage and Biosphere Reserves. Drinking water produced in the island is among the highest-selling products across the country. Electronic power companies (built mainly with external capital) are making higher profits than local counterparts, by running wind power generators on the island (NI 14, 2011). For these reasons, it is no wonder that the island has long been the subject of external exploitation.

That said, during the fieldwork, it was frequently observed that local officials of Jeju province were making a lot of phone calls during office hours, in order to press for their island to be awarded another title "New7Wonders of Nature" (For the New7Wonders foundation, see http://www.new7wonders.com). The Zurich based-organization giving this award has been subject to criticism: for example, for the nontransparent procedure for selecting the winning landscapes, self-claimed authority and partnership with the UN, unreasonableness in their demands for huge donations from the selected countries, and so forth. A civil activist criticized (Ahn, 2012: no page) them as follows:

> "According to media reports, the foundation does not even have an office - it is a sort of paper company. How on earth can the provincial government office spend more than 21.5 billion won [about $US 19 million] per year? Its normal annual expense for a phone call is about 0.3-0.4 billion won [about $US 0.3 million]. Further expenses by the people joining the campaign for their patriotism are impossible to estimate. The scale is tremendous! The issue is that the profit from telephone votes is contractually obliged to be distributed among the foundation, the domestic promotion committee and KT [Korea Telecom] Corporation. It turned out later that the phone calls made for the votes were not international but domestic. The people had been set up to pay the cost of international phone calls for making domestic phone calls" (†).

Yet, most important to this thesis is the national and local efforts to earn the award through public service announcements, such as encouraging the public to cast telephone votes for Jeju, mobilization of celebrities and public figures for this, and thunderous advertisement of the anticipated economic effect of the award based on

research. One official reportedly got a promotion due to the thousands of phone calls he made for the event (NI 14, 2011). Eventually, Jeju was awarded the title in 2011 due to the enormous number of phone calls. It is far from clear how much benefit the award would bring to Jeju Island and Korea. Regardless of the anticipated benefits (possibly illusory), this could be seen as a classic example of how a strong public-private partnership is built on distorted information, mis-claimed authority (e.g. UN), patriotism, newly made expectation of future benefits, benefits-seeking groups, and a combination of these and other core drivers. This provides a look at the face and workings of social relations in the developmental state (Evans, 1996) that still remain in Korean society. In this case the strong partnership was established to wrongly benefit a few groups, but this is exactly how the authoritarian regimes promoted their national development plan for compressed development.

Certainly, Jeju has developed broadly double, contradictory relationships with external power and capital. On the one hand, the islanders were victimized for the national ideological confrontation during the time when Korean society, right after independence from Japan, was experimenting with various ideological thoughts in the late 1940s. The Jeju 4.3 incident is but one of geopolitical accidents that originate in the Japanese colonial era. On the other hand, the developmental state later set up the local circumstance in which the local society faces a dilemma (NI 14, 2011): top-down, external capital-led development of orthodox tourism (requiring large infrastructure) versus an endogenous, bottom-up approach to the development of eco-tourism (e.g. *Olle* trail for hiking, see http://www.jejuolle.org/#).

7.3.2. The developmental path of Jeju Island: dual-risk?

Jeju Island is one of the peripheral regions in Korea in terms of its geography and the importance its industry has within the entire national development path. Thus it is not wrong to infer that Jeju has not been the epicentre of compressed development. Notwithstanding this point, Jeju society has lately confronted dual-risk that is externally fomented. In the case of Jeju, much of the experienced dual-risk is imported from the outside rather than endogenously created: c.f. Seoul. In supporting this argument, the nature of the developmental path of Jeju needs to be grasped, in the context of an industrial structure and recent urbanization process, political culture, and social capital.

7.3.2.1. Tourism-directed development with later urbanization

Just because the developmental state (under President Park Jung-hee) planned and reared the development of tourism and orchard industry does not mean that the dual-risk thesis can be directly applied to Jeju without question. In fact, there are aspects of Jeju that either refute or are incompatible with the tenets of the dual-risk thesis. Surely rapid socio-economic changes have occurred in Jeju too, during the same period of compressed development, yet in the absence of rapid urbanization, secondary industry (manufacturing), and endogenous business groups such as *Chaebols* (NI 11, 2011).

The authoritarian government has promoted Jeju as a tourist city, but this was actually an attempt to attract foreign tourists. This was mainly to *assist* the national industrialization (heavily focused on manufacturing industry) which, at that time, severely lacked industrial capital (Lee, 1995). Thus the central government developed Jeju as a source of foreign exchange. Even if this was not successful (changed to satisfy domestic demands for leisure and travel later), the development of tourism continued. Local participation and priorities were disregarded, in the dominant presence of external (both domestic and foreign) monopoly capital, the Ministry of Construction, and central government (ibid.). Starting in earnest with the 1973 Jeju tourism development plan (set up by the Blue House), which continued until 1981, the improvement of infrastructure and urban facilities had been geared exclusively towards supporting tourism development. Investment resources spent during that time were made up of government funding (48.5%) and private resources (47.1%); c.f. the local government's investment (4.4%). For these reasons, the thinking that the fruits of local development were not for locals but for visitors has been common even until recently.

The context of development in Jeju changed in 1990, when the governor made a proposition to President Roh Tae-woo for the establishment of a Special Law for empowerment of the local authority. There were some issues regarding the compatibility between the national and local plans for Jeju development. At a critical juncture, soon after the democratization of Korea in 1987, President Roh accepted this proposition, meaning that local development has taken a different *modus operandi* since then. Of course, the improved rights and roles of local government did not mean a halt to strong roles and intervention of the state in local governance space. At this stage, Lee (1995: 109†) notes, "from that time, central government has fallen back to

set up local government at the head of impelling local development, without giving up its influence, yet in a different way." He continues to argue, "the new Special Law was a change in strategies, not the direction, of development with capitalist development still prioritized over environmental conservation, for example." This view is accounted for in more detail by NI 14 (2011):

> "So, after the democratization of 1987, Korean society achieved institutional democracy, which led to a local self-governing system in the 1990s. In the past, central government directed land development. Yet, now central government acts as a wirepuller behind local governments. The Minister of Land, Transport and Maritime Affairs used to have the right to decide local development, which has been now ostensibly devolved on governors. You know what recently happened? At the provincial council, local councillor asked the policy-planning officer, "how on earth can the construction of the naval base go on without local consent?" He said, "if we do not do this, central government would cut off ten billions [Korean won] of treasury support." This would have been deleted from the minute. Whatever the issue, such as climate change, is under this local social structure how can we [NGOs] willingly cooperate with them [(local) government]? There is no sense of trust [between different groups]" (parenthesis added†).

This passage accounts for one aspect of local politics that Jeju has undergone. The devolution of rights to local government does not necessarily mean a complete local self-governing system. Again, the presence of central government within a discourse of local development has played an adverse role in the deterioration of trust in local governance. In this regard, much of Jeju's socio-spatial identity as currently known outside Jeju has not been endogenously but exogenously formed. As mentioned above, local oppositional movements against exploitative development and recently made alternatives to the orthodox tourism development (e.g. the eco-friendly *Olle* hiking trail) are another important constitutive part of Jeju's identity. The problems of various vertical and horizontal relations also partly continue because of recently propelled urbanization.

The recent urbanization phenomenon in Jeju Island has taken place exclusively in Jeju city. It has come about without the development of secondary industry unlike in many urban places of Korea, including Seoul. The "Jeju Special Self-Governing Province" consists of two cities – Jeju City and Seoguipo City - that occupy the north and south territory of the Island. Until the mid-1990s, Seoguipo City was wealthier than Jeju City,

due to its good environment for advancing primary industry (e.g. mandarin industry and rice farming) and tourism industry (e.g. Jung-moon tourist complex). Recently this disparity has reversed, in the wake of structural economic reforms (e.g. agricultural import liberalization following the Agreement on Agriculture in 1995 and land use changes) (see Lee, 1995), and the concentration of transport and relocation of government offices to Jeju City). RAI 9 (2012) notes, "it is against the backdrop of an engineering-construction project, the so-called New Jeju Development Project, that the new urbanization began." As chapter five clearly demonstrated, an alliance among the winners from compressed development (e.g. the so-called engineering-construction Mafia) is strongly present, and seems already to have deeply engaged in the construction of the urban landscape of Jeju. Another ally can be found in the rigid political structure of Jeju.

7.3.2.2. Political culture: greater autonomy only for the local authority

Jeju province is a sole "special self-governing province", meaning that, similar to the relationship of Hong Kong to China, the local authority is empowered to deal independently with all local issues (except for rights to diplomacy and defence). However, the reality is very different, as mentioned above. Central government still exerts hegemonic power to influence local agenda setting and decision-making. Additionally, whilst the local authority is not given autonomy from central government, it wields absolute power within the island. NI 11 (2011) aptly explains the reality of local politics in Jeju:

> "Within Jeju, the local authority has tremendous power over other groups. Jeju is a special self-governing province, but the governor appoints the two mayors of Jeju City and Seoguipo City, which is different from the local political system of other provinces. It is also distinctive that in Jeju there are no powerful business groups such as *Chaebols.* This fact is important because its annual budget amounts to about three trillion Korean Won [about 2.6 billion $US]. This is really large compared to other municipalities, given the size of the population [over half a million]. For this reason, the governor wields absolute economic power. The local media of Jeju are normally in dire straits. There are just 40 local newspapers, including online newspapers. If these offend the governor, no advertisements are given to them. Sometimes they even get directy financial support for operating expenses from the local authority. The governor is *de facto* in full control of the media agencies" (parentheses added†).

This account can be interpreted as meaning that political decentralization at the national level has turned into the reinforcement of centralization in Jeju. This situation is also encouraged in the absence of countervailing forces – the lack of indigenous business groups. In fact, the two mayoral positions and members of local councils used to be elected until 2006. Then governor Kim Tae-hwan (first term – 2004 to 2006; second term as the first governor of the self-governing system – 2006 to 2010) abolished the local political system (local councils) through a local referendum. This was interlocked with the introduction of the new provincial system. Finally, the governor was "recalled" by locals to a local referendum. NI 11 (2011†) continues to explain:

> "It was the first case in history of Korean democracy that the people had recalled an elected governor. The procedure for sponsoring the referendum was easy at first. When voting started, however, you know…the civil service community in Jeju is powerful. The provincial officials were allocated at all the polls monitoring, and writing down the names of, those who joined voting. So, the turnout did not exceed 11%, which was far too low even for the vote to be valid. The local referendum failed therefore."

If a turnout does not exceed 33% of the total vote, the vote does not count in the first place. Among other matters, Kim's failure to sort out the issue of the naval base construction was said to be the main cause of the referendum. This is because it was one of his main pledges at the time of his second election of governor in 2006. This will be discussed in detail later. What implications did the referendum have for the local politics of Jeju? The referendum apparently failed, but it caused a shock for the existing local power structure. For one thing, this referendum is extremely meaningful in that civil society directly progressed the referendum from beginning to end. Yet the failure of the Seoul referendum in 2011 led to the resignation of the conservative mayor, but that of Jeju resulted in the opposite result.

There exist both promising and limited aspects of the local politics of Jeju. The clear presence of civil society and its roles in local governance was observed, despite not being strong enough to lead to a political regime change. Challenges to the development of local politics in Jeju, such as the unintended outcome of local centralization, are considered to result partly from the endemic social capital, the so-called *Gwon-dang* (NI 11, NI 14, 2011).

7.3.2.3. Traditional social capital: *Gwon-dang*

Gwon-dang (*Gwen-dang* in Jeju dialect) refers to close relatives. In a narrow sense, social capital is not exclusive to Jeju. However, the *Gwon-dang* institution has long been a major element of the island's local community, hinging on strong ties in both paternal and maternal lines.

A proper understanding of *Gwon-dang* would involve a detailed ethnographic and semantic study of marriage, family and kinship institutions of Jeju, which is beyond the scope of this research. Instead, it is worth quoting the limited research into *Gwon-dang*, showing both similarities and differences between Jeju and the mainland:

> "As a general concept that widely refers to all relatives belonging to "kindred", *Gwen-dang* is a term that Jeju people normally use to express close relatives. Those using the same family name with father's side are called *Seong-pen Gwen-dang*; for mother's side, *Oepen Gwen-dang*, and extended to *Cheo Gwen-dang* or *Si Gwen-dang*. After all, there do not exist "*Maenom*" (absolute strangers) within the village endogamy system. Even between those who are not relatives to each other, they can be called, for example, "*Samchon*" (uncle). Without adhering paternal blood lines, wider *Gwen-dang* relations are made so that Jeju people have a strong sense of community instead of that of clan" (Kim, 1993: 456)†.[31]

NI 11 (2011†) provides a different interpretation of *Gwon-dang*:

> *"Gwen-dang* is community culture in Jeju. It also means going to *Sindang* (a shaman temple for worshipping local gods) together. In Jeju, each village has *Bonyangdang* for divinizing local gods. So we call going there together *Gwen-dang*. Its other meaning is a relative…the role of the village community has recently weakened, but still exists."

Dictionaries of Jeju proverbs (Ko, 1999, cited in Kim, 2006: no page) also state that "*Gwen-dang* refers to close and distant relatives. That those get together to support and be concerned for each other, including rites such as weddings and funerals, has become custom". Beyond semantic/literary definitions, "*Gwen-dang* is generally understood as indicating social ties including regionalism and school ties in Jeju" (Kim,

[31] *Seongpen* and *Oepen* are Jeju dialects meaning father's side and mother's side. *Cheo* and *Si* means wife's parent and husband's parent side.

2006: no page). *Gwen-dang* can also be seen "a sense of exclusivity toward outsiders" (NI 11, 2011). This reading appears plausible, yet it needs further examination.

Observation throughout the fieldwork confirmed the strong sense of community culture in Jeju. Koreans from outside of Jeju would not understand Jeju dialect, although Jeju people speak both standard Koran language and Jeju dialect. A lot of disparities in informal institutions were observed, from marriage through family structure to livelihood, that together constitute a relatively high status for women (due to their high economic participation) and a sense of independence (based on nuclear family even before modernization) (Kim, 1993: 456). As in the mainland, however, Confucian institutions have also coexisted with the above indigenous culture in Jeju. Unfortunately, the existing research does not reflect on the possible impacts of the 4.3 Uprising on changes in *Gwen-dang* culture around the 1950s (ibid: 459). This means that the historical tragedy has reconstructed the public space of Jeju very much; and since then there could have been many changes to *Gwen-dang* as a whole. This is an extremely crucial point – a contemporary reading of the traditional social capital in terms of the politics of disaster. It is far beyond the scope of this research to track all the processes by which *Gwen-dang* has changed so far. Nor is this to deny the possibility of it changing. Alternatively, it is worth quoting a long passage:

> *"Gwon-dang* was reciprocity and a spirit of mutual help in the past, yet it has turned into something unhelpful now. Look at how the local society has changed after adopting the self-governing system in 2006. Changing local communities, bigger development projects, and so on" (NI 14, 2011†).

Comparing the current situation of Jeju to the colonial era, in which natural and human resources were extracted from their hometowns, leading to the lack of those who can organize local communities, he continues:

> "Jeju is going exactly the same way. Outsiders occupy most lands. Young people prepare for civil service examinations. If they fail them, they leave Jeju. Old people turn to farming or playing golf. A thousand people outflow annually. I can't hardly get infuriated! There are no peers working with me. If they are to study properly, they must agonize about the community their life is based on. The issue of climate change is much the same. Why do we adapt? Why mitigate? Why should we make such

> policies? People don't act just because of ecological changes unless they are ecologists. Yet, they might be concerned about death, yes and then they would reflect and act…if the community my life relies on collapses, why should I act on such issues as climate change from the start?" (NI 14, 2011†).

This local environmental activist reveals that the building of socio-spatial identity the islanders have developed (not the one formed by (central) government, for example, "Tourist City") is in danger of disappearing. Perhaps this is a slightly exaggerated expression of personal anger against recent urbanization processes, accelerated by a combination of the distorted *Gwon-dang*, external capital and centralized politics, amidst the fading spirit of local community. Closely related to this, NI 11 (2011†) pinpoints multiple forces of recent development in Jeju that go hand in hand with the collapse of community:

> "It is hard to further develop urban places that have been already developed because of the high land prices and immediate opposition. So, recent large-scale development projects tend to be located in undeveloped lands in mountainous areas. Consider *Gotjawal* that is a volcanic area of unique forest [the only place in the world in which the tropical northern limit and polar southern limit plants coexist]. The land price is much cheaper and the locals have used the land there as ranches. Yet the village, not single individuals, collectively owns the ranches. If they or their children leave the villages or die, their rights to the lands are forfeited. So they might try to sell the lands before they die, whether they are huge or small. This attracts the builders trying to build hotels or amenities. It is a quite unique property rights institution that the right to lands remains as long as they live there" (parenthesis added).

Again, it is evident that there are multiple structural forces threatening the continuity of local community in Jeju. There can be many other conditions in which the existing spirit of local communities ends up disappearing. When a place loses its local identity, and then is replaced by the builders' pursuit of profit, is it likely that the place will regain a discursive space for local issues to be concerned as was the case before? It is not so difficult to comprehend that local ideas coevolved with the local environment, and institutions cannot be immediately replaced. "Place identity" is one of the emerging agendas for CCA (Fresque-Baxter and Armitage, 2012), although it has long been studied in geography.

Another matter is the relationship between *Gwon-dang* and the working of local politics. The power of *Gwon-dang* is easily witnessed during elections in Jeju. It was reported to have had an immensely powerful influence on local elections, that even national political parties cannot simply ignore (Kim, 2006). This claim brings into focus a sharp contrast between Seoul and Jeju. Seoul fairly recently saw the election of an independent candidate, which can be interpreted as the first evidence of bottom-up political reflection. Jeju has seen several independent candidate governors since the inception of local elections. In the case of Jeju, the election of independent candidates should be construed as meaning that the *de facto* two-party system of national politics does not work. In this situation, local agenda setting and decision-making are liable to opportunistic manipulation by a few groups whose *Gwon-dangs* are more intimate with elected political leaders.

In fact, the above-mentioned case of a recall of the previous governor to a local referendum in 2009, and its failure, reveal how the distorted *Gwon-dang* of the Jeju public official community can act to undo bottom-up critiques of maladministration from some locals. One of the previous governors of Jeju province stresses at an interview with local press (Shin, 2013, cited in Lee, 2013: no page), "the most urgent task for the development of political and electoral culture is to eliminate *Gwon-dang*. This should be done, but there is no action. Politicians, would-be politicians and even progressive figures are busy talking about funerals and parties. This is very disappointing!" This interview indicates that *Gwon-dang* is overtly expressed as the Achilles heel of Jeju politics in the public sphere.

7.3.2.4. Why is dual-risk "imported"?

There are symptoms of dual-risk in Jeju, although they may be less clear than in urban places such as Seoul. While the extent of urban and industrial development within Seoul is far greater that in Jeju, the socio-economic, cultural and educational centralization in Seoul might have enabled better circumstances for reflecting on dual-risk. Yet dual-risk in Jeju can be far greater because the indigenous institutional arrangements for risk governance are not necessarily adaptable to imported risks.

On one hand, the constitutive elements and impetus of urbanization and development of Jeju are fairly exogenous: e.g. tourism development by external capital and for use of outsiders and foreigners (golf resorts and hotels in *Gotjawal* forest), auxiliary role to

assist national industrialization (to earn foreign exchange), and obviously a changing climate. For example, the orchard industry of Jeju and the construction of golf resorts are argued to have increased the risk of inundation in downstream areas (RAI 8, 2011). The focal point here is that the locals have been exposed to risk originating from decisions they have not made, which have not been made for their own wellbeing, and which they have often opposed. Of course, this kind of risk formation can be widely found in the real world. In fact, the issue of how environmental change in one place is caused by distant others' activities in another place is one that political ecologists have strived to unearth (Peet and Watts, 1996). Ironically, it is not only spatial distance but also historically constructed marginality from the core current of compressed development that has defined the risk profile of Jeju.

On the other hand, it is necessary to question the socio-political aspect of dual-risk. Although gradually diminished, traditional social capital has remained relatively strong in Jeju society. However, the lack of human resources due to outflows of younger generations, organizational resistance to new expectations of political changes (e.g. the officials' community), low fiscal self-reliance ratio – hence lack of local autonomy from central government (NI 14, 2011), political corruption, and the perception-reality gap of environmental risk all account for the nature of the dual-risk facing Jeju society. Jeju is also in danger of losing its 'place identity', as illustrated above. It is plausible to argue that the civil society of Jeju has yet to experience a critical moment, at which environmental disaster risk will be collectively interpreted to open new space for risk governance (as in, for example, the aftermath of typhoon *Nari*). Most political reflections from local NGOs emerge elsewhere, interlocked with the historically maintained exclusivity against outsiders, to encourage environmental movement.

Multifaceted contradictions facing the island society are that: 1) the locally distinctive sense of independence and the need for material reliance on external forces; 2) the coexistence of nominal autonomy from central government ("freedom from") and a lack of indigenous positive freedom ("freedom to"); 3) the intensifying environmental hazards together with a tendency to underestimate them; 4) privatized *Gwon-dang* by a few politicians with diminishing collective endeavors to keep place identity; to name a few. These contradictions have not only generated the opportunity for institutional and discursive changes of various kinds, but have also reinforced the structural forces of

dual-risk. Nowhere is imported dual-risk more evident than within the discursive and actual competition over the construction of the naval base construction.

7.4: Construction of the naval base: a case of imported dual-risk

The case of construction of the naval base was selected for this chapter, in pursuit of searching for *locally generated* questions of environmental disaster risk. Preceding in-depth interviews with local environmental activists offered hints, which were interpreted as suggesting that the naval base construction would typify imported dual-risk. Moreover, one of the potential informants was arrested and imprisoned for his involvement in objection protests against the construction on the day scheduled for an interview. These altogether brought about particular attention to the case, although they did not intimate strong implications of the case on this research at first.

Box 7.1. Chronology of the process of construction site selection

The first governmental plan for building a naval base in Jeju came about in 1993. Since then, previous central governments and the navy have confronted severe local oppositions, thereby keeping changing a potential site of construction of a naval base until 2007. After many complications, the navy under the Lee, Myung-bak presidency finally chose eight proposed sites in March 2007. One month later, Gang-jeong village expressed wish to host the naval base; 46 opponents were taken to the police. On 14 May, then governor Kim, Tae-hwan determined to host a naval base in Jeju that led to a recall to local referendum in 2009. As one of these, Gang-jeong village and the surrounding area were selected for the final construction site. In August 2007, Gang-jeong village decided by election to oppose the naval base. In September 2008, the central government announced an amendment to the plan (from construction of a naval base to a joint naval base and cruise port). In 2010, the construction commenced.

Source: Based on Gureombisalligijeonguksiminhaengdong (2011).

The analysis of the naval based development and risk production will be developed in connection with four points: 1) destruction of *Gwon-dang* (traditional social capital); 2) discourse of national security versus local vulnerability; 3) invisible versus concealed disaster risk; 4) Consequences for local resilience and implications for hazard-specific resilience. The construction site is located in *Gang-jeong* village in *Seo-gui-po* City, which a villager describes as follows:

> *"Gang-jeong* is one of a few areas in Jeju with workable soil for rice farming. Due to this and other reasons such as fertile soils, high amount of sunshine, and communal sharing of labour, *Gang-jeong* village was far

> richer and more salubrious than other villages where only tangerine farming is possible, yet we have benefited from four-season farming. Therefore, the benefits of nature were great here… community based pro-environmental activities such as saving sweet fish and *Gang-jeong* stream…so the Ministry of Environment designated Gang-jeong as an eco-village with an excellence award in 2006" (LRI 1, 2011†).

Indeed, environmental value was well understood and secured by the locals until the naval base construction commenced in late 2010. This passage indicates his sense of pride and understanding of how nature, livelihood and traditional bonding capital have coevolved in harmony with each other at *Gangjeong*.

Figure 7.5. Photo of the naval base construction site: Gureombee Rocks and Gangjeong

Source: Captured from Google Earth (2013).

7.4.1. Cracking bonding capital, Gwon-dang

In 2012, a local paper reported serious findings from the psychological research into the locals' mental health condition at *Gangjeong* village, conducted by the Institute for Medicine and Human Rights: one tenth of the villagers are categorized to a high-risk group with serious suicidal impulse, one third for feeling of suicidal impulse over the last week of the survey period Gureombisalligijeonguksiminhaengdong (2011). It is also revealed that depression (38.8%), obsession (33.7%), fear/anxiety (25.5%), and enmity (24.5%) were prevalent among the local people (ibid.). 91.8% of the research

participants believed that "the issue of the naval base construction has aggravated relationships amongst villagers." 47.4% answered "conflict of opinion among families continues." At one in-depth interview, one respondent discloses, "When I was a child, I witnessed that my teacher and headmaster were shot dead in front of me during the 4.3 incident. The current situation here is more grave than that time."

When questioned about how the local community has changed, LRI 1 (2011) offers another depiction of the community fission and the role of the navy that:

> "In the past, did not we bear a funeral bier *when one of our neighbors dies*? This culture has remained here until fairly recently…in terms of sharing of labor, consider when villages hit by a typhoon. We normally help each other by turns for reconstructing disaster-torn houses. Well, despite our community divided over the naval base issue like this, we won't completely lose community spirit; just divided pro and contra. We would not cooperate with *the advocates of the naval base construction*…was it Typhoon *Nari* in 2008? Our village and green houses were seriously damaged. At that time, the navy and police came and help our village. The issue was that they helped only advocates even with no damages while hugely damaged opponents were left alone" (emphases added†).

Whether intentional or not, the navy's unfair approach to disaster aids seems to have exacerbated the community divide. NI 11 (2011) offers another example of the community split that "even children are divided at a school depending on their parents' perspectives to the naval base construction." A lot more stories of conflict can be enumerated here. An important question is why the villagers who had once strong bond have had to face the destruction of traditional values and social capital.

An equally important aspect of *Gwon-dang* in Jeju can be grasped by looking at how unhelpful the Jeju police have been in disrupting opposing groups of the locals, priests, and activists, many of whom the police are their *Gwon-dang* (NI 11, 2011). After all, the central government has sent the land police to the island. It is worth citing that:

> "Seeing the land police dispatched to Jeju again where the scar of the 4.3 Incident has remained intact, a villager Kim's open scar also seems to get worse. The 4.3 Incident and the current situation at Gang-jeong resemble in a way that condemn innocent locals as rioters, commies and North

> Korean sympathizers, and violently ejects them by mobilizing the land police" (Kang, 2011: 96)†.

In line of this expression, Hong (2011: 63)† adds that:

> "During the 4.3 Incident, the largest number of people who were killed in *Seo-gui-po* was from Gang-jeong. This is why people here have remained that deep scar. Not only Gang-jeong people but also all the residents in Jeju. The land police have opened up the scar. The Jeju 4.3 Uprising is history of bleeding. Locals were dragged to mountain and killed for no reason."

These expressions of anger against outsiders and unfair power relations are socially constructed based on a historical perspective. What this most crucially tells us is that current conflict and cracking *Gwon-dang* at *Gang-jeong* are exogenously conditioned phenomena. At the same time, however, an increasing number of "outside" groups started to join the opposing campaign.

7.4.2. The national security versus the demimonde in alliance

The issue of the naval base construction should be considered as more than a pros and contra issue. Actually, far more diverse ideas, values and interests have been complexly projected onto the wider conflict arena.

Figure 7.6. Photos of violent conflict at Gang-jeong: activists deported

Sources: Adopted from http://www.ohmynews.com/NWS_Web/view/at_pg.aspx?CNTN_CD=A0001620958
Notes: Hundreds of activists, priests, and locals have been fined and arrested for the infraction of law on assembly and demonstration, and the obstruction of justice and business.

First, the orthodox rationale for construction of "a" naval base in Jeju is broadly twofold: geopolitical stability (e.g. to secure sea routes against infestation of pirates at the Strait of Malacca and the issue of territorial waters with China) and national security (North Korea). One can argue against this rationale by stressing that: 1) the maritime police in place are fairly enough to deal with the geopolitical issues, and 2) the claim that the southernmost island of Korea is a optimal, strategic point for preparing for threats of North Korea is not logical (NI 11, 2011). Yet, more intriguing than refuting the rationale is questioning why it has to be *Gang-jeong*, let alone Jeju.

As noted in Box 7.1, it is true that *Gang-jeong* village was favorable to the naval base construction plan, and even hoped to host the construction at first. As the central government and the navy argue, agreement of residents was gained: everything appeared to be going smoothly despite then some loosely organized protesters. A situation suddenly changed when some alliances among "outsider" and islander groups including Gang-jeong village bagan to be made after solitary struggle of oppositional villagers for three years. This seems to have been triggered by the provincial assembly 's decision to reassign the Gang-jeong area as an absolute preservation area, and the participation of wider groups and people from all different walks of life (e.g. celebrities, artists, foreigners, priests, monks, etc.). Outsider groups are not identical to their reasons for opposing the naval vase construction: e.g. peace, environment,

democracy, and anarchism/anti-nationalism. Even amongst opposing Gang-jeong villagers, there are different reasons for the opposition, as NI 11 (2011†) notes that:

> "There are broadly three groups. One group opposes it because they might feel economic compensation was not enough. This is quite understandable claim, particularly for those who used to rent land for farming. Another group is those whose lands were acquired by compulsion. Third group is worried about future impacts the naval base would bring forth to *Gang-jeong*."

Then how have such a many number of differing ideas and values been united to resist the orthodox discourse of national security? In particular, it was discussed before that Jeju people are known for their independence and exclusivity against outsiders for historical reasons. Strictly speaking, central government, the building *Chaebol* companies and NGOs from the mainland are all the same outsiders to the locals. Of critical importance is to recognize the altering discursive dimension in which the naval base issue is dealt with: from narrowly national security versus local priorities to widely national security versus wider values, ideas and worldviews. In fact, the villagers were also holding a sense of detachment against even the outsider NGOs and opponents, believing that the issue is exclusively "our own" with the central government (NI 11, 2011). Over time, only the central government, the navy and adherents who are absolute majority in the discursive competition have maintained the thinking (ibid.). To the opposite groups, it has already been a "national" issue; even a global issue given the presence of foreigners at the village and the discursive competition such as Noam Chomsky (a progressive U.S scholar) and Angie Zelter (a UK peace campaigner). Box 7.2 offers a story of an American, amateur photographer who taught English in Jeju over two years until 2011, and how he was kicked out of Korea for the photos of *Gang-jeong* he took.

Box 7.2. A story of a boomerang effect: an American photographer deported

I was actually ready to go home. My plan was to go home on August 21. I had a ticket. And I had a plan to see my family for three months, and then I even had jobs here. I had a teaching job more than one. Already. So I decided, ok I am ready and I come and teach again. And I, but I decided I needed to stay for taking more pictures. And I moved to Gang-jeong August 15? Maybe? And I don't know when they started investigating me, but my school tells me around that time they got a phone call about me. Because I never kept my identity secret because I was doing my work for Jeju government. Jeju Weekly was until now funded by government and a lot of people working there almost everyone who contributed to it had teaching visa, but the pay is very little, it's not a job. It's more like passion? For volunteer work? And I needed to get into news so I was volunteering, more like volunteering. So I can

get experienced. Anyway, ah…yes the government never had a problem. They never said anything. Anyway they called my school and asked who I was. And found out about me. But I didn't know. I didn't know about it. Anyway it wasn't secret…and then August 24 it's when everything really happened. It was when it got really serious. And I was there all day long taking pictures of all..everybody saw me. All the police saw me. All the navy saw me. Everybody saw me. Actually I spent most of my time with other journalists because I've developed some relationships…anyway that morning I received strange a text massage from well I found out it yesterday. It's from a navy guy. Yeah. It had a picture of baby dog, I will show you a dog…I don't know who it was…Pretty sure it's he. [How would they have your number?] Maybe somehow through Twitter? Because I used Twitter to talk about Gang-jeong, talk about the news. And that person was on Twitter. I know another one of my friend said same thing happened. Anyway so yeah I think then maybe they really became concerned. But! I also think they let me be. Let me be. They call other people about me. They call other journalists about me…I think the big difference was Al Jazeera came. And they were really unhappy about Al Jazeera. They did not like Al Jazeera. They followed Al Jazeera everywhere. [Why?] I don't know why. I don't know what they were doing.. I spent a lot of time with Al Jazeera and I think it was real, that was the kicker. Because it was right after I spent time with Al Jazeera? I went to Seoul to see my girlfriend. And I got a phone call from immigration saying you've been investigated. You have to come to immigration. That was in September...they called me in September maybe 15th? And my first meeting with immigration was September 21st? [What did they say to you?] They just asked me about my work at the Jeju Weekly. Because it is technically against my visa, but since it's government paper, immigration had always said the news, "don't worry"…even last year they had same problem with someone else who works there. They went in 15 minutes. Done. No problem. No fine. No nothing. [So, it should be no problem unless you got involved in the crisis?]. Oh absolutely, my name has been on the front of the paper every issue since December of 2010. My name on the front of the paper!...Actually the *Seou-gui-po* police called immigration and said "investigate!" that's what happened. And they tell me yeah the *Seou-gui-po* police called. [How do you feel?] How do I feel? Haha angry. [Did you think you were doing something wrong?] Absolutely not. All I did was take pictures. That's it. Even the pictures I took no one has really published them. No one sees the pictures because I am too new in photojournalism to get published. So yeah they are not even out. [Maybe the government and the navy were too sensitive to having you at the village because…] Well because I am foreign. They think I can publish my pictures internationally. But here is the thing now I have to. Now I am kicked out of Korea, I have no choice. Well they took all of my money. They took my home. They took my job opportunities for a year. They make me hard to come back to Korea. They are taking my girlfriend from me. So what do I have left? Pictures. I have the pictures. That's all I have. So yeah, when I go home. I have no car, no money, no health insurance and no job. So what choice do I have? Other than to show the pictures to everyone. And I have to and I will. Even the worst part is they made my story better because they catch me out. So my story is even better now. Even better…obviously they tried to get me out. Because I am telling the story. But also they've cut the paper's funding. And they fined the paper, too. So now the paper is struggling. The worst part is they're cutting their own nose off.

Source: MI 1 (2011).
Note: The parentheses are my own questions.

This story offers crucial points for this research. First, a government can manipulate enforcement and application of institution at will. It was observed that the police stationed at the village held stricter application of the law to the villagers on the opposition side. For example, when stopped by the police for not wearing a helmet, one local woman on a motorcycle shouts, "I've never put on a helmet over the four decades of my life here. Why is it a problem now!" (n/a, 2011, from the thesis author's

observation). As a matter of fact, there is ample evidence that the government and the navy have breached various laws and individuals' rights: e.g. property rights, sea pollution adjacent to the construction site, construction enforcement in disregard of the parliament's call for reconsidering the adequacy of the construction; just to name but a few. Indeed, the opponents use these cases to publicize the illegality of the naval base construction. Yet, the discourse of national security seems just enough to underplay all of these (NI 11, 2011, NI 14, 2011). Second, it is also confirmed that a (local) government can if indirectly exert its influence to local media as noted above. Together with this, the (local) government's effort to keep the issue insular/domestic is also grasped. In this case, more did the government try to control information (e.g. photos of *Gang-jeong* crisis) more likely was it to be spread.

Again, it was witnessed that the adherent groups use ideological distortion, as in the case of the FRRP and other public space, denouncing the opposing groups all together commies or North Korea sympathizers (LRI 1, 2011). Of another importance is that the opposing locals learnt about the importance of various values other than just compensation or livelihood issues. Among the three groups of the opposing locals, the above-mentioned last group worrying about potential, adverse impacts of the naval base other than material/compensation matters is in fact a result of the extension of the discursive space (LRI 1, 2011).

Despite the wider discursive space ever, the construction of the naval base has continued until the time of writing this chapter. It should be noted that both groups do not totally deny the importance of others' priorities. For instance, the central government and the navy do not completely overlook the significance of environmental conservation insomuch as the opponents also care about national security. In reality, however, differing priorities, dissimilar approaches, incompatible underlying ideas (e.g. worldviews/historical views) and asymmetric power relations coexist to continue bringing about winners and losers. In the context of the Gang-jeong crisis, who are winners and losers? Will be the central government and the navy necessarily winners with the naval base completed? These questions do not have concrete answers.

That said, neither groups have seriously embraced environmental disaster risk to fortify their positions. It is argued in the following section that the naval base construction has multidimensional aspect of climate change and environmental disaster risk that can make neither side necessarily winners.

7.4.3. Is it invisible or hidden disaster risk?

Jeju Island is located at the front line of annual, northward typhoons; and *Gang-geong* village is the southernmost of the island. Ironically, it is highly probable that exposure to a typhoon hazard is a worse problem to the naval base itself than the locals. Figure 7.7 aptly shows the power of Typhoons *Bolaven* and *Denbib* in 2012. Six heavy caissons out of seven (W: 8,800 tones, L: 38m, W: 25m, H: 20.5m), placed at the sea to build seawalls were completely destroyed by the typhoons to unuseable states.

Figure 7.7. Photos of caissons destroyed by Typhoon Bolaven and Denbin in 2012

Sources: Adopted from Yonhap News (2013), Gang-jeong village (used in Ohmynew, n/a).
Note: A caisson is large concrete structures that are frames of seawalls. NI 11 (2011) reveals that the builders use these structures in order to complete the construction more quickly; and claims the safety of the use of caissons had not been tested.

Even after this event, neither the navy nor opponent groups made the hazard event a political issue; at least in the media no such a claim has been found. Instead, there made concerns about sea pollution, a budget waste, and collision of a vessel. No argument is made here that future typhoons will inevitably damage the naval base. Instead, it is extremely important to question what reflections the destruction of caissons has made on the naval base construction. Indeed it is one of a few opportunities through which to regain space of critical consciousness to proactively adapt to uncertain environmental risk.

No such space can be offered by the system of a prior disaster impacts review under Article 4 and 5 of the Natural Disaster Countermeasures Act, and Article 3 of enforcement decree of the same Act. The report based on the formal institution covers only physical aspect of anticipated disaster risk, and suggests engineering resolution (MD, 2009). The conduct and findings of the report should briefly be reviewed. First, only the last ten years of disaster history (1997~2006) are reviewed in the report; quite unhelpful for proactive adaptation to 100-year-return hazards, for example. In addition, past disaster impacts are limited to losses and damages from wind and flood hazards. Based on this, the report concludes that no one was killed by natural disasters at the construction site and nearby coasts. This is refuted by NI 11 (2011) that:

> "About ten years ago? Not even during a typhoon season, swell waves like tsunami suddenly crashed into here [*Gureombi* rock, see 8.5], and killed a couple of people. According to *Gang-jeong* villagers, if the naval base is built here, such disaster risk will be very high. So, tsunamis here are localized...they can easily pull ships out of the sea" (parenthesis added†).

None of the opposing groups seem to have taken this fact seriously, maintaining the marginality of environmental risk in the discursive competition of *Gang-jeong* crisis.

Second, the report concludes, "among the planned facilities, there is not a high-rise facility so that no wind hazard disasters are expected to occur" (MD, 2009: 112). This conclusion is completely false as the destruction of caissons shows it; the construction site is highly likely to be exposed to future typhoons. In fact, the report arbitrarily and wrongly interprets the guideline of the Natural Disaster Countermeasures Act for conducting a prior disaster impacts review. The Act specifies, "[i]n the case that a proposed construction site is for building high-rise facilities such as a pylon, a review of wind disaster impacts must be conducted" (ibid: 111). This should really not be interpreted as meaning that in other cases a review of wind impacts could be simply exempted from the review. In essence, implementation of a formal institution is subject to the possibility of vested interests influencing outcomes.

Third, the worst part of the report is its lacking any account of social vulnerability to the risk of natural hazards. This problem is rather to do with the tendency to prefer engineering approach to disaster risk in Korea. In the case of Gang-jeong, however, it

is clear that the cracking *Gwon-dang* and weakening community activities, to which the naval base crisis is largely contribute, would impede the locals' hazard-specific resilience, yet this aspect has been completely ignored by the central government. Not only the presence of the naval base itself but also the entire process (before and after the construction) and any socio-economic impacts need be taken into consideration for the system of prior disaster impacts review.

Last, suggested measures for reviewed disaster risk are far from detailed and appropriate. For example, one sentence is devoted to suggesting a measure for typhoons: acquisition of precise typhoon information through TV and radio (ibid: 163). In the case of tsunamis, a code of conduct is suggested for timely evacuation and information dissemination. As RAI 8 (2011) points out, "it is not true that Jeju totally lacks a system of forecast and warning for typhoons and tsunami. Realistically, can the system work well? The elderly are sleeping and unprepared; can they even receive and read text massages?" The reason why the system of prior disaster impacts review exists is to offer a detailed picture of anticipated disaster impacts and tailored answers to the anticipations that existing provincial and municipal plans for disaster risk reduction cannot address. But the reality is completely the opposite.

With the above points in mind, it can be argued that the report on prior disaster impacts was limited in scope and framed in a way that supports the development proposal. In this sense, any future typhoon disasters at the naval base will be the collective responsibility of not only those who have constructed the port but also those who sanctioned and undertook the risk asessment. The death of 46 Korean sailors on the sunken corvette *Cheonan* in 2011 could be clearly ascribed to the torpedo attack of North Korea. Who will be blamed for future disasters that are likely to be triggered by typhoon attacks?

7.5: Conclusion

Jeju faces a situation of ostensible autonomy from a central government. But research shows the limitation of this narrative. There is a lack of freedom, despite being named a "special self-governing province"; a thwarting of local capabilities through a lack of positive freedom, cracking and privatisation (at hands of a few politicians) of social capital resulting in the co-production of dual-risk of environmental hazards. For various reasons (e.g. foreign exchange, leisure, national security, liberation of agricultural products), external capital and central government have brought about land use changes, loss of place identity, and local and family conflict in Jeju. The naval base construction is but one example of how dual-risk can be imported to a historically and developmentally marginalized place. At the same time, the islanders' long-held sense of exclusivity against outsiders, the tendency to underestimate disaster risk, diminishing bonding capital and community destruction will not help them to prepare for the era of climate change risk. This point is quite straightforward that global risk such as climate change risk is not what the local society alone can deal with.

NI 14 (2011) notes that:

> "Jeju has made the first provincial level plan for responding to climate change in 2008 even before the national master plan for climate change adaptation. With the help of ministry of environment, a professor, policy maker and myself [environmental activist] led to building the plan. Actually, the policy maker and I were students of the professor. Without the existing strong ties, the plan building would not have started in the first place" (parenthesis added†).

No judgment is made on how effectively the plan has been implemented so far. Important is that social capital is a means to fulfilling ideas, beliefs, and values rather than an end itself. New ideas and values can emerge whenever new needs and expectations either endogenously or exogenously occur. NI 14 (2011) also adds more comments that:

> In terms of the issue [climate change adaptation], well most government official do not understand the need to work with NGOs, yet the policy maker knew it well. He was young, and passed the national examination to become a high-ranking official. Plus, he became a section head when he was 29 years old. Most of those

> whom he had to lead and supervise were much older than him. Would they listen to him to whom they are almost uncle? In an attempt to do his roles, he brought civil society into policy making processes to gain power from outside. This relationship has lasted so far (parenthesis added†).

The complexity of social capital becomes clear, especially when the need for different actors/groups to compete and cooperate is compelling. When the nature of Korean culture that age is seriously taken restricts the scope and capacity of a political actor, it is also possible to change it by extending his or her external relationships.

Implementing environmental risk reduction and CCA will be much more difficult than planning them. In Jeju, the national government's top-down approach to reducing uncertainty of national security (for resilience of a national security system) has in turn hindered the adaptive capacity of the locals to disaster risk (for resilience of a local adaptive system). Despite the reportedly high reflections of the locals on the contradictions between development and environment, no significant change has been made to fill the perception-reality gap of environmental dual-risk. Existing formal institutions such as the system of prior disaster impacts review are in danger of being abused to give indulgence to the central government and the navy, rather than protect potentially vulnerable groups. Thus there exist a many number of gaps between perception, reality, institution and agency. Collective, political endeavor and policy targets, based on critical consciousness, should be directed to filling the governance gaps, if the local society is to remain adaptable to future risk of climate change.

Chapter 8: Conclusion (Theoretical and policy implications of the thesis)

In this concluding chapter, several key findings of the research need be made clear before there are reassessed in relation to the theoretical implications described in Section 8.2. These key findings together support answering the research questions in Chapter one.

8.1: Core ideas of the research

A. The failure to address *socially differential vulnerabilities* today will affect the future disaster-specific resilience of the whole community in diverse ways. One of the main reasons for this is that issues of equity and justice are likely to be considerably more important to future generations than they are now in Korea. For example, issues such as the further widening of already wide governance gaps, increasing social costs, and higher rates of staff turnover are likely to lead to decreased labor productivity. These issues would be important for further research in the context of the Korean case study, but have not been addressed in this thesis (instead, for how the term "social" risk is disapproved in Korea, see Chapter five).

B. If viewed from a dialectical perspective, "dual-risk" should not be seen as just a "problem", but also *an "opportunity" for actors and groups to make material and discursive changes*. Indeed, the critical consciousness of dual-risk is one of the core drivers of social innovation that has recently taken place in Seoul (Chapter six).

C. A study of institutional adaptation to disaster and climate change risk might involve not only the causality that is modeled from certain institutional arrangements towards their resilience outcomes, but also that which is modeled *the other way around;* for example, from rapid growth – through increasing economic resilience – to social innovation in response to increasing inequality, vulnerability and injustice.

D. *There is an institutional vacuum, which impedes the transformation of latent adaptive capacity to climate change adaptation in Korea, and it is this that policy makers and non-profit organizations urgently need to target.* However, it is also important to examine the extent to which the national climate change adaptation policy (2010) would be able to address the issue of the governance gap between current institutional capacity and future climate change risk. In this thesis an institutional

vacuum does not mean merely an absence of institutions. Rather it is the space in which certain groups of people lack the social connections, political power and access to essential assets that are required for addressing the underlying causes of social vulnerability in the wake of "rapid" cultural change. For example, the elderly used to be taken care of through family-oriented care systems (RAI 5, 2011); people were expected to respect and care for their elderly relatives in accordance with *Hyo,* a core family value in Korean culture. However, this value system has changed and many elderly now live alone without material or mental support from their children, but Korean society has not developed until fairly recently any alternative, such as the long term social care system seen in some European countries.

E. In the case of Korea, unlike that of Vietnam (Adger, 2000a), the liberation of the political economy from the early 1990s onwards has not lead to a reduction in the strength of the role played by the state, including that in the area of disaster risk reduction or climate change adaptation. Be that as it may, the state has never played a *particularly* strong role in terms of disaster risk reduction. However, the re-organization of civil society has not been confined to informal realms; rather it has begun to substitute the roles of the state. Therefore, in response to increasing symptoms of dual-risk, *socio-political entrepreneurs from civil society have emerged as an alternative political force to both the ruling and leading opposition parties* (Chapter six).

F. One of the least developed areas of institutional work on disaster risk and climate change adaptation is the question of how to measure institutions and institutional change. Most work on the issue of disaster risk focuses on the outcomes of institutional change, rather than on institutional changes or social innovation itself. This thesis suggests ways of measuring institutional change, for example by looking at regime change, change in disaster discourse, and conflict between national security and local values (Chapter four).

In addition, it is also apparent that the comparison of the local politics of disaster in Seoul and Jeju has allowed me to capture the endogenous and exogenous causes of dual-risk (Chapter seven). In Seoul, the ideological distortion was overcome, if only temporarily, because the changeability of political regime allowed the scope of

disaster-specific resilience to be widened; whereas, in Jeju the external capital and the central government contributed to the formation of urban disaster, as well as future exposure of the navy to typhoon hazards.

G. *It is evident that social innovation travels across different realms of politics (e.g. from life to formal politics) to encourage discursive and material change in the way in which urban disaster risk is dealt with* (Chapter six). The thesis also looks at a variety of the drivers of social innovation, such as the diversification of social needs. These have come to function as critiques of orthodox ideas and development priorities, such as the previous anti-communist hegemony or growth-centered values, the arbitrary interpretation of property rights to facilitate the evasion of local government's responsibility for natural disaster mitigation (c.f., property rights have been too easily ignored for development work such, for example in housing redevelopments by large conglomerates and the construction of the naval base in Jeju (Chapter seven). Other drivers of social innovation considered include recurrent natural disasters in urban settings (Chapter six), and the political participation of the younger generation who question the legitimacy of the old political systems.

H. *The assumptions employed to distinguish the propensities and roles of the government, civil society and business for social innovation might be helpful, but only partially sufficient for a fuller account of social change and innovation.* Some NPOs are more status quo-oriented, whilst some bureaucrats have exhibited a great deal of entrepreneurship and produced innovative ideas—albeit limited in implementation (Chapter five, six and seven). In addition, just as criticizing the Bush administration is not equivalent to criticism of the state, we should be cautious about using certain administrations as representing the government. This should also apply to the case of private actors (Chapter six).

I. The individualistic view of entrepreneurship is obsolete; it fails to catch the core roles of collective entrepreneurship as Chang (2010a) argues. In the field of disaster risk reduction, social innovation (collective mobilization of critical consciousness) is essentially about who should channel individual abilities into collective entrepreneurship and about how this can be done (ibid, the comparison of Chapter six and seven).

J. Uncertainty can be claimed to legitimize the necessity and desirability of governmental projects, such as, the four-river reconstruction project (Chapter five). This fact demonstrates that uncertainty is used as not only source of inaction, but also as a source of reason to implement unchecked/untested ideas, philosophies and visions. The naval base construction was also legitimized by the government on the pretext of national vulnerability to the risk posed by North Korea. This is closely related to the tendency of governments to use risk/uncertainty to maintain the status quo (Chapter five and seven).

K. The "narrow ideological spectrum" (Choi, 2010: 58†) influences not only the ways in which the issues of disaster and CCA are discussed, but also the material formation of dual-risk (the naval base in Chapter seven). Local responses differ very much depending on the nature of local social capital, the political culture and the endemic discourse of hazards. It is clear that natural hazard is not a single, direct cause of politics nor an institutional arrangement, but is rather a catalyst for existing ideas and claims to be competed and mediated (Chapter six).

L. As the basic institution, the (re)construction and use of language have practical influences on the governance performance of disaster. Different uses of terms impact on the way in which cooperation between governmental officials unfolds (Chapter four for disaster and five for adaptation). The dual-risk thesis can learn much from the socio-nature thesis about how to overcome the dichotomous understanding of nature and society. The socio-nature thesis can pay more attention to the way of how spatiotemporally heterogeneous ideas, needs and institutions together shape social construction of urban risk, and its political outcomes (Chapter six).

8.2: The relationship between resilience and freedom in Korea

As illustrated in 6.2, Mayor Park's local adaptive governance (with a focus on social innovation) seems to constitute a cross-scale combination with the national-level adaptive governance of both former President Lee, Myung-bak and President President Park, Geun-hye. This combination is what Duit and Galaz (2008: 326) might see as having relatively high "adaptive capacity for unexpected shocks", thanks to the "buffering effects" between different scales of adaptive governance system (e.g. rigid+fragile, see Figure 8.1). This line of thinking has been also empirically

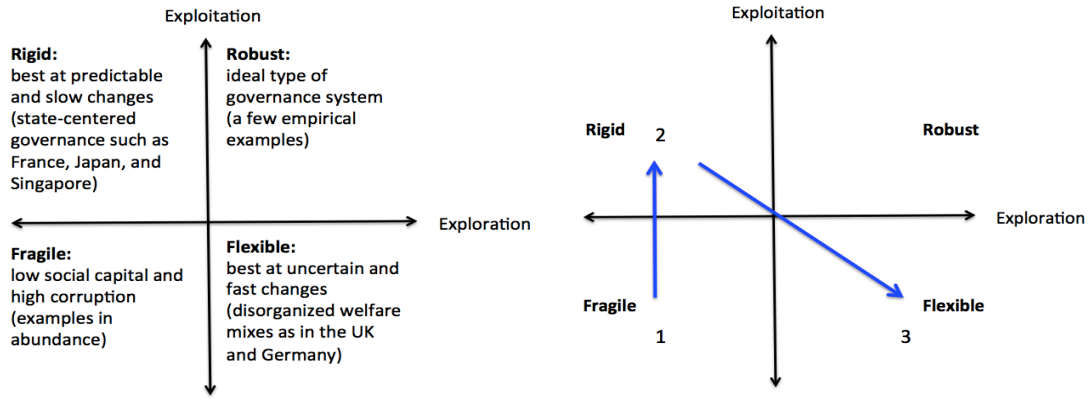
questioned by Adger (2000a), in the context of the transitional Vietnamese society, in which the state's lack of role is replaced by the revival of local communities' roles in environmental risk management.

This thesis has focused on different levels of political dynamics at which the increased perceptual importance of nature as a source of future risk has been dealt with. One level is the national-level politics at which climate change risk is used as the means to sustain the status quo of the society. Another is the city level, at which a mayoral change has come about after the urban disasters and the case of the naval base crisis. With reference to the concept of developmental resilience, further research needs and limitations of this research will be suggested.

8.2.1. Developmental resilience

The concept of "developmental resilience" offers new insights into the causal relationship between institutional arrangements (the balance between stability and flexibility) and adaptation outcomes. Resilience is seen as adaptive systems' essential quality, if it is to deal with internal/external changes whose uncertainty is hard to reduce through the existing institutional arrangements of society (Adger, 2000b, Folke et al., 2002, Young, 2010). Rather than reiterating the general features of resilience, developmental resilience underlines the important process by which institutional stability forms the basis of institutional flexibility. In this chapter the two main institutional characteristics of adaptive capacity are abstracted to lie in an "asymmetric" internal relation (Sayer, 2010: 61). An asymmetric internal relationship means that the existence of one entity, disposition or pursuit (stability) presupposes another (flexibility); *not the other way around* (also see Chapter four).

Figure 8.1. Moving an analytical focus from the static to dynamic understanding of CAS



Source: Adopted and modified from Duit and Galaz (2008).

As in the left graph in Figure 8.1, Duit and Galaz (2008: 319) conceptualize the adaptive capacity as an outcome of balancing the two functional capabilities: exploitation (to tackle "collective action problems" through strong partnerships and high cooperation) and exploration (innovation through learning, experimentation, high feedbacks of information). Exploitation is presumed to help a system to adapt to relatively predictable and slow changes. High exploration is thought of as necessary for adapting to uncertain and rapid changes. Yet, they do not offer any descriptive and normative account of how the hypothesized fragile adaptive governance systems might transform to the other three types (rigid, flexible and robust). In addition, the presumptions do not do justice to the complexity of real-world risk society. Suffice it to say at this stage that different adaptive systems might take qualitatively different paths from phase 1 (fragile) through 2 (rigid) to 3 (flexible) as in Figure 8.1. Arguably, however, it might be *much less* common for an adaptive governance system to evolve directly from phase 1 (fragile) to 3 (flexible) without developing its own strategies for "collective action problems".

It should be also noted that to identify the nature of an adaptive system is a matter of degree, direction and progress; not a concrete state (Duit et al., 2010). Differently put, no adaptive system can be totally rigid or flexible. Even fragile adaptive systems might have some capabilities to cope with local risk problems. Once it has reached phase 3, an adaptive system might be able to bring back in the institutional measures for organizational integration it nurtured during the phase 2. An example is some laissez-

faire regimes recently returning to protectionism or adopting far stricter immigration laws after the global financial crises in 2007 to 2008. This also might be why some sociologists question how individualized society after the first modernization could deal with "precarious freedom" when the need for integration is still high – what the old institutions of modernity such as the state, family and schools used to offer (Beck and Beck-Gernsheim, 2009: 13).

The philosophical jargon "holon" – a whole system that also constitutes a higher level system – helps identify the presence of a rigid adaptive governance system (e.g. state-centered) with flexible sub-systems (collaborative governance at sub-national/local levels) or other possible cross-scale combinations of adaptive systems (Duit and Galaz, 2008). Reconsidering the discourse of agents and groups within the adaptive governance system leads to another important criticism against Duit and Galaz (2008)'s theory of complex adaptive governance. State-centered adaptive governance system is *normally* considered to support institutional stability than flexibility. The higher involvement of civil groups in an adaptive governance system seems to imply more flexibility and innovativeness.

The above debate is a reply to the hypotheses developed by most systems theory-inspired researchers. They tend to prioritize articulation of the causality running from certain characteristics of institutional arrangements (self-organizing, diversity, openness, flexibility, and feedback) to resilience outcomes; *seldom* the other way around. This means that they provide invaluable insights into what a resilient organization might look like. Lacking the historical-structural and ideational perspectives, however, they focus less attention on contextual reasons as to why alternative ideas bring about unevenly effectual outcomes across place and time (as in Seoul and Jeju). Nor do they see the aftermath of phases of critical social changes (e.g. colonization, civil war, rapid economic growth, liberation of political economy and individualization as structural changes) as entailing novel governance gaps. A governance gap here refers to a functional and normative mismatch between an existing institutional arrangement and the concrete realities of risk. Also important is that new types of winners and losers and novel narratives are reproduced throughout the transformations.

Governance gaps might mean that a simple replacement of social policy or technical measures does not necessarily fulfil the *differentiated* expectations that different stakeholders have of multiple relationships (e.g. between social and ecological systems, from past through present to future, and government and NGOs). Different expectations probably signify that the taken-for-granted beliefs, norms and ideas institutionalized for the purpose of satisfying previous material interests (e.g. growth, welfare) do not perform well any more. The roles, power, and rights of those in governance processes can also be called into question. Environmental risk might also infiltrate into the governance gaps, not only to produce "double losers (O'Brien and Leichenko, 2000: 221), but also to activate the "reflexive shift in consciousness" that can bring forth institutional changes (Seo and Creed, 2002: 234). The latter case is of primary concern to this chapter.

8.2.2. The intimate relationship between freedom and resilience

In essence, the conceptualizations of developmental resilience and freedom are not mutually exclusive, as freedom is widely supported both as a means and end of development that shapes the level of resilience of the given society (Sen, 2001). Freedom can be conceptualized in two different ways as follows.

This thesis accepts the wider conceptualization of freedom to include both "positive" and "negative" type of freedom (Berlin, 1958: 155). Generally speaking, a positive freedom allows actors to fulfil their values or intentions ("freedom to"), while a negative freedom means a lack of external intervention ("freedom from") (ibid.). It can be argued that positive freedom is related to the development of institutional stability/continuity (e.g. strong roles of the state – investing in education and health systems), while negative freedom enables institutional flexibility/innovativeness (less intervention of government, loosely networked governance and free access to information). Chapter three already accounted for three important roles of institutions: constraining, enabling, and constitutive. For one thing, less intervention means not an absence or decrease of institutional presence, but replacement of one by another or a qualitatively different one.

It is only recently that the pre-existing, classifying labels of politics – e.g. left or right wing, libertarian or authoritarian, and anarchist or statist – have been integrated with such concepts as vulnerability and resilience. Institutions largely shape the *modus*

operandi of CCA and DRR. Not only the kind of institutions and enforcement tools, but also the arrangement, power relations, social capital are all crucial factors (see Chapter three). Then one might immediately ask in what institutional configuration humans as individual and collective beings can be fully adaptable to various types of risk of climate change. The above labels of politics seem to offer much to deal with this question (see O'Brien et al., 2009, Pelling and Dill, 2009). The problem is that they are not so sufficient and appropriate as to fully account for the diverse political and normative landscapes of different societies where CCA is necessary. For instance, "the predatory state" and "the developmental state" might completely differ in terms of the relationship of their internal structures and external ties to development outcomes (possibly adaptation too); although one might call them together an "authoritarian" regime (Evans, 1989: 581-4). This is related to the above-mentioned problem of the discourse of agents in adaptive governance systems (Finding H, Section 8.1).

In fact, applying a theory of resilience and governance whose normative origins lie at Western philosophy (e.g. liberalism) directly to non-Western societies such as Korea requires extra caution. For example, Korea is now a liberal democratic (full democracy) society, as spelled out in its own constitution, and it is described thus by international organizations and scholars (EIU, 2010, Jacobs, 2007, Kim et al., 2008). Yet, resilience building in liberal democratic societies with strong liberal social contracts such as Norway, New Zealand and Canada (O'Brien et al., 2009) might have limited implications for Korea. The transitional route from the authoritarian to the liberal democratic state and the increasing civil participation in Korea cannot be attributed just to the negative freedom and civil rights that Western societies gained through fighting against feudalism and reforming the medieval catholic (Choi, 2010). It was rather the particular combination of positive ("freedom to") and negative ("freedom from") freedom by which the authoritarian regime first succeeded in unifying the collective aspiration towards implementing compressed development, that unexpectedly (?) brought about the bottom-up call for the need for negative freedom. Yet, the individualization process (dis- and re-embedding of individuals from and to institutions) of Korea lacks "individualism", so that the normative orientation of reflexive modernization significantly differs from that of its Western counterparts (Chang and Song, 2010, cited in Beck and Grande, 2010); c.f. individualization with individualism in Western societies (Han and Shim, 2010). This structural change

generates tensions and conflict. Although the self-actualisation needs for women have been far greater than before the remaining traditional roles are collectively imposed to construct new risk on Women (Chang and Song, 2010).

8.2.3. From developmental resilience to disaster-specific resilience

Again, in theory, it is easy to argue that governance systems require both stability and flexibility to be resilient against complex risk problems (Duit and Galaz, 2008). This idea presumes that exploitation- and exploration- oriented systems have respective strengths and weaknesses so that an ideal type of resilient system (the so-called "robust" system) ought to strike a balance between the two functions. A robust system can deal with both abrupt and long-term risk challenges. However, they do not theoretically articulate why or how some governance systems are either robust or flexible without a substantial degree of stability now, or how they can or cannot become so.

DRR and CCA are some of many goals and values to be concerned in society. As Burton (2009: 91) notes, "Type II Adaptation [adaptation to climate change] should be built upon and strengthen Type I Adaptation [adaptation to current climate variation and developmental issues]." This thesis certainly supports this argument for "mainstreaming" CCA into current development visions. Whilst the thesis included a brief historical sketch of the Korean developmental state, it did not provide detailed accounts of if and how developing countries can adopt or imitate the developmental state model.

Developmental resilience is a term coined to illustrate the contextualized level of resilience, specific to the developmental path of Korean society. After societies go through transformations (compressed development), the inherent functions, properties, and values that they have promoted to secure might change anew, with the help of critical ideas and alternatives stemming from agency. When political actors fight, often it is disparity between their underlying ideas as well as causal beliefs. Simply put, the nature and level of the status quo (what to secure) alters as the nature of social expectation also changes (what the world/society should be like). This idea helps uncover many dilemmas facing, if disproportionately, almost every country of the world. What is the point of transformations if it is merely to lose more lives and properties because of disasters?

8.3: Policy implications

Korean society has evidently shown belated political reflections on dual-risk of disaster. Two points should be made here: one is for Korea; and another is for other would-be dual-risk societies.

It is clear that the application of the model of developmental state to other countries (e.g. Africa) has been academically discussed (Mkandawire et al., 1998, Dassah, 2011). In addition, there is ample evidence that African countries have been eager to learn Korean development model or at least a model of developmental state. It is worth quoting an interview with Ungandan finance minister at the Korea Africa Economic Cooperation Conference that:

> "Korea has been where we are coming through…Korea is about the only country that has graduated from being a major aid recipient to being a major assistance giver over the last 50 or 60 years ... we feel that they can understand the problems that countries like ours face" (Reuters, 2012: no page).

This is but one of expressed reasons why it is this that Korean development model is appealing to African countries. In addition, as one interviewee of the current research explains, Korean government and companies have a stake in building partnerships with those less developed countries: resource security or export window (RAI 2, 2011). Even the partnerships built with ASEAN countries for supporting CCA are considered as means of securing natural resources (ibid.). Regardless of the applicability of the model, urbanization in African countries has already caused various problems: one of them is urban disaster risk (Pelling and Wisner, 2008).

Of particular concern is not that adopting the Korean development model (or the developmental state model) will necessarily bring about localised dual-risk in importing countries as in the same way in Jeju (Chapter seven). As this thesis illustrated, there are many elements that involve the formation of and reflection on dual-risk in a complex way. Nevertheless, it is probable that policy learning or technology transfer from other societies can possibly generate new ideas, values and environmental deformation in beneficiary countries that heterogeneously clash with indigenous values. This is partly why the Korean Federation for Environmental

Movement has recently opposed the export of the FRRP model (flood-control work) to Thailand (see http://www.koreatimes.co.kr/www/news/biz/2013/07/123_137252.html).

8.4: Limitations of the research and further research needs

Major limitations imposed on this research are:

A. Limited time and financial constraints
B. Potential interviews who could not be interviewed (interviews denied, arrest, no responses)
C. A lack of related literature in the context of Korea (e.g. politics of disaster and CCA)
D. Translation issue as articulated in Chapter four

The clearest limitation imposed on this research was that it was fairly hard to get access to data about the ideas and perspectives of the locals who were directly exposed to the urban disasters in Seoul and in relation to the naval base construction crisis in Jeju. As noted in Section 8.1 (core idea A), socially different vulnerabilities to the risk of disaster and climate change might be an important subject for future research. Various factors, such as gender, age, income, ethnicity, social capital, occupation, political views and the experience of disaster, need be incorporated into studies of dual-risk of disaster. Such research will build on the current research to make wider theoretical connections.

Second, more effort was made to collect the views of NGOs rather than governments because the research focused on the emergence of critical consciousness. As this thesis mentioned before, however, critical consciousness is not an exclusive characteristic of social activists/civil society. Although it was the case that governmental officers interviewed tended to be reluctant to share their critical ideas during interviews, future research should adopt more flexible data collection methods in order to reveal the full diversity of the interviewee's opinions.

Third, it is promising to compare different (post-) developmental states (e.g. Korea, Japan, Taiwan, Singapore and China) in terms of DRR and CCA. The similar experiences of rapid urbanization, industrialization and liberalization, as well as their common background of Confucian culture are expected to offer an excellent

opportunity to examine the ways in which natural hazards complicate their institutional stability and flexibility at different scales in diverse ways.

Fourth, one of dilemmas that delayed the initial progress of this research came from the fact that the researcher has not experienced any serious disasters triggered by natural hazards during his lifetime. This does not mean that experience of disaster is a necessary qualification for carrying out research into disaster. However, it does mean that, particularly at the early stage of the research, the researcher tended to underestimate the risk of disaster in Korea in most of the interviews in this research. In this sense, the current research has been a long journey through which the researcher has come to realize and overcome his own bias towards and tendency to make assumptions about the stability and safety of the world.

8.5: Conclusion

This chapter has outlined the theoretical implications this research has for the dual-risk thesis, the theory of institutions, and the systems theory-informed resilience school, as well as for the concepts of freedom, adaptive capacity and adaptation. The policy implications for other would-be dual risk societies were also briefly discussed. Finally, the chapter looked at the limitations of the current research and further research needs. One of the empirical contributions this research has made is that policy makers can use these research findings when setting up plans for CCA. Existing research tends to rely heavily on quantitative approaches to the issue of CCA and DRR. For example, comparative research on the vulnerability of different provinces to climate change conclude that Jeju is most vulnerable (You and Kim, 2008). Note, however, that this statistical study can only partially inform the national climate change policy. For example, the number of civil servants per capita is only a proxy indicator of effective governance in the study. Qualitative research equipped with an in-depth understanding of the dual-risk of disaster can complement the quantitative research.

In addition, what is missing from the national policy of CCA is an understanding of the fact that citizens – broadly speaking, civil society – have adaptive capacities, and political power, are able to define what groups are vulnerable, and, moreover, have the potential to promote social innovation. The ways that people utilise political power, social networks and creative ideas differ across place and context. If managing the underlying causes of social vulnerability is a crucial part of climate change adaptation, which has yet to be true, it is plausible to draw more attention to the origins, processes and impacts of "successful" social and political innovation, which are often less visible than those of failed cases. I argue that deepening and diversifying social needs at present, as well as social expectation towards the future always precedes social innovation, although the former does not guarantee the success of the latter.

In post-developmental Korean society, a disaster triggered by natural hazards has already become a complex political issue. This is a huge difference compared to when a disaster remained apolitical; an 'act of God' or an individual tragedy. In the era of climate change, it will be perhaps be more visible that the clashes of values, norms, ideas, visions and interests will happen in a public space created by natural hazards.

I end with a quote from Nobel Physics Prize winner, Dennis Gabor (1900-1979), "History must stop, the insane quatitative growth must stop; but innovation must not stop – it must take an entirely new direction" (Gabor, 1970: 3).

Appendices

Appendix 1 An example of guiding questions

Role and responsibility

1. How did you become a member of the organization?
2. What is the responsibility in your role in the organization?
3. What is the main goal of the organization in the past and the present? Any change in the issue you commonly deal with? (e.g. there were hardly any critiques of natural disaster management of Seoul in the past when some typhoons hit Seoul before, why now?)

Social networks and participation

4. With which organizations/groups do you normally meet and interact to deal with the issue of natural disasters and environmental change?
5. What is the relationship between local authority officers and the organization like? Any financial aid from the government?
6. Who are the authority officer or department dubbed as "engineering-construction Mafia"? Why are they called like that?
7. Do you feel free to participate in the process of local risk governance? If not, why? If yes, any change since the last inauguration of Mayor Park?
8. Apart from making comments, statement, joining public discussion, by what means do you influence policy construction regarding natural disaster risk management and climate change adaptation? Any actual case that the suggested ideas are accepted and applied by government to policy construction?
9. In informal realms (not policy and formal institution area), what activities do you carry out to inspire citizens' civic consciousness of and participation in natural disaster management?

Information and ideas

10. How easily do you acquire information and data regarding the issues you deal with from the local government?
11. Have you ever tried to suggest the local government new ideas as resolution to environmental risk problems? How did the government react to your suggestion?
12. Why do you think the government and the organization have different perceptions of the same, if any, issue, for example the cause and result definition for natural disasters (God's work v/s man-made)? Is this often like that?

Recent natural disasters

13. On what grounds do you argue that recent natural disasters (urban inundations and the landslides crisis) are because of previous Mayors' engineering-focused development work? Is not it also true that rapid urbanization over the last 4 decades is more responsible for them? Or other causes?
14. What political ramifications do you think the recent crises brought about? Regime change?
15. Any change to the local authority officers? More hardworking? Different strategies?

Climate change general

16. What is the organization's view to most urgent work to be done in terms of climate change risk? Any future plan and work for that?
17. Have you ever engaged in the policy building process for climate change adaptation? If not why?
18. What roles do you think general NGOs and your organization should take for climate change issues?

Appendix 2 Variables for the analysis of vulnerability

The below table shows a set of possible variables that can be considered for the analysis of vulnerability to environmental hazards and climate change. Such variables for analytical purposes are divided into four quadrants, depending upon the knowledge domain from which social and physical science studies can offer tailored knowledge and the dimensional sphere that demarcate the internal and external zones where vulnerability arises. Of course, the spheres shown in the table are not fixed as such: for instance, for the global climate system all the spheres simply become internal; for households their social network can be an external dimension.

Examples for each of the four categories of vulnerability factors classified according to the dimensions sphere and knowledge domain

Sphere	Knowledge domain / main approach for each knowledge domain			
	Socioeconomic		Biophysical	
Internal	Household income, social networks, access to information, literacy, nutrition, trust, reciprocity	PE, PR, IA, RA	Topography, environmental conditions, land cover	RH, PR, IA, RA
External	Kyoto protocol, UNFCCC, IPCC, national policies, international development aid, global economic recession, financial crisis	PE (?), IA, RA (?)	Severe storms, earthquakes, sea-level rise, heat wave, torrential down pour	IA, RA (?)

Source: Based on Füssel (2007: 158)
Notes: RH (Risk Hazard research), PE (Political Economy), PR (Pressure and Release model), IA (Integrated Approach to vulnerability, e.g. the hazard of place approach, SESs approach), RA (Resilience Approach).

The above table cannot wholly account for the dynamics of vulnerability to the risk of climate change. Rather, it should be further developed by applying them in a more detailed, yet holistic framework for the sake of particular analytical purposes. In addition, natural hazard is just one of sources that endanger society. The local people whose family members committed suicide due to the MT *Hebei* Spirit oil spill (see p. 68) will suffer not only from the impacts of the medium to long term climate-related risks but also from the declining trust and reciprocity that in turn will hamper their coping ranges for fighting short-term natural hazards.

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